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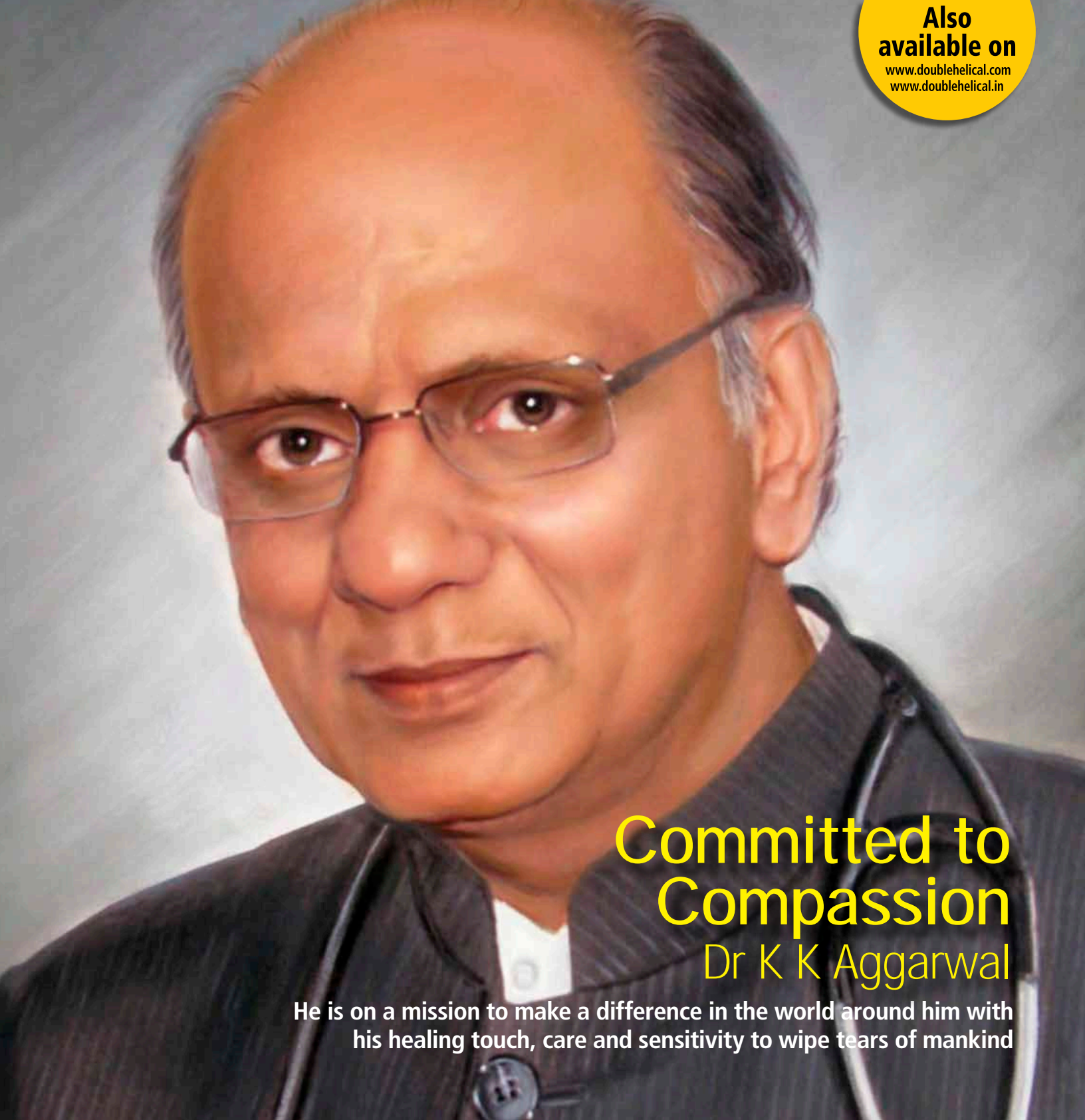


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January 2017

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Volume III Issue 2
January 2017

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Now, watch out for Double Helical National Health Awards 2017!

Dear readers,
As you are aware, Double Helical is engaged in the dissemination of knowledge and awareness about issues confronting the health and well-being of people and the challenges before the healthcare sector. Further, to acknowledge the extraordinary achievements of the outstanding doctors, medical institutions and allied professionals, we also organize national and state level awards. We are pleased to announce that we are going to hold National Health Awards in May, 2017 in New Delhi, for which we seek your support and blessings to make the event a success for the betterment of this noble profession.

In keeping with our mission to regularly update you with the latest health news and views, you will read comprehensive and authentic coverage of health issues in the current issue. As part of our special story, this time we are covering Padma Shri and Dr B C Roy awardee Dr K K Aggarwal, who recently took charge as National President, Indian Medical Association. He is a multifaceted healer full of deep compassion, care, and sensitivity, wiping away the tears of mankind with his magical healing touch.

We are also focusing upon the Supreme Court's recent decision to allow a rape victim to abort her abnormal 24-week-old foetus on medical grounds, which is beyond the permissible 20 weeks limit prescribed under the Medical Termination of Pregnancy Act, 1971. As a matter of fact, there is a crying need to revisit the present legal limit to save a mother's life, especially in view of the rapid advances in medical science.

The Supreme Court's decision comes on the ground of danger to the victim's physical and mental health. The victim got relief under an exception in section 5 of the Medical Termination of Pregnancy Act, 1971, which allows abortion after the permissible 20 weeks in case it "is immediately necessary to save the life of the pregnant woman."

In many parts of India, daughters are not preferred and hence sex-selective abortion is commonly practised, resulting in an unnatural male to female population sex ratio due to millions of girls selectively being targeted for termination before birth. The prevalence of illegal abortions, combined with the idea that abortion could be a mode of population control, has caused the government to reconsider the law. After the Supreme Court's recent order, the entire medical fraternity has started demanding immediate implementation of the much-awaited draft Medical Termination of Pregnancy (Amendment) Bill, 2014.

Lack of food safety is one of major threats to public health in India. Child deaths from diarrhea in the country are among the highest in the world due in part to poor water quality. Perhaps very few cities in India provide clean water that can be consumed from the tap without filtration. As India needs FDI to maintain growth, Prime Minister Narendra Modi aims to improve India's ranking in the Global Competitiveness Index, but India's discouraging record on the issue of food safety is stymieing these efforts by presenting a picture that the country is far from ensuring good quality of food to its people.

To achieve food safety, we need allocation of adequate resources to

regulatory units. Institutions need to be strengthened and their capacity enhanced. We require tighter strategic and operational coordination among various agencies. We need to apply restrictions and sanctions in areas needing urgent policy attention, but targeting high-profile products in an attempt to step up regulatory activities may prove to be counterproductive. Noodles of a particular brand may or may not be a legitimate health threat, but it is clear that the country's food safety and public health regulatory regimes should undergo a complete overhaul, sooner or later.

The story entitled 'Mankind under Threat' explains how human beings are vulnerable to various infectious diseases or zoonoses, which are transmitted from animals. Zoonoses is defined as an infection or infectious disease transmissible under natural conditions from vertebrate animal to man. Based on the direction of transmission, these are classified as Anthroozoonoses, which are infections transmitted from animals to man, for example rabies, plague, etc. For the benefit of our readers, we have come out with an in-depth study of these deadly infections, the strategies for their prevention and their possible cures, written by our expert panel.

There are many more such interesting and thought-provoking stories in the January 2017 issue of your favourite magazine Double Helical. Our best wishes to you for a rewarding, productive and successful New Year. Happy reading!

Warm regards,
Amresh K Tiwary
Editor-in-Chief

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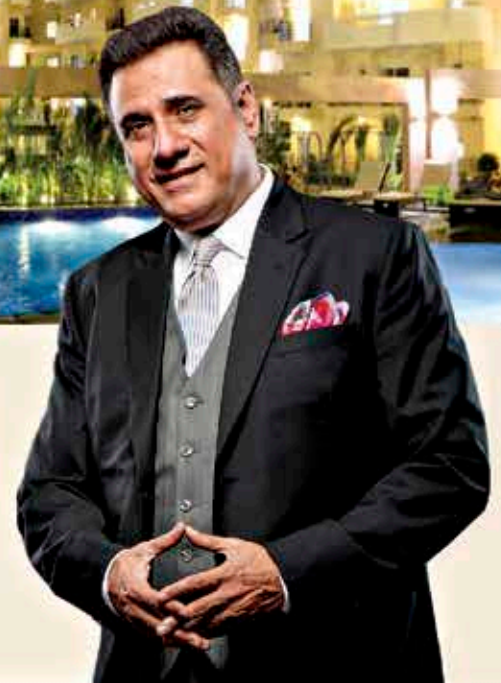
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MoUs signed for infrastructure expansion in AIIMS

All India Institute of Medical Sciences (AIIMS), New Delhi recently signed MoUs (Memorandum of Understanding) with NBCC (India) Ltd, HSCC (India) Ltd and with HITES HLL Life Care Ltd to expand its infrastructure and other facilities.

The signing ceremony was presided over by J P Nadda,

Union Minister for Health and Family Welfare, and Venkaiah Naidu, Union Minister for Urban Development, Urban Poverty Alleviation, and Information & Broadcasting. AIIMS signed an MoU worth Rs 4441 crore with NBCC (India) Ltd; Rs 2500 crore with HSCC (India) Ltd and Rs 729 crore with HITES HLL Life Care Ltd – a cumulative net worth of Rs 7670. Appropriately, J P Nadda described this as the largest ever health sector



investment commitment made by Government in a public health project at one event.

“The past two years have witnessed historic growth in the form of infrastructure and other facilities,” Nadda said. The Health Minister assured that the Government is committed to ensuring that the new AIIMS will meet the same standards of service as AIIMS, New Delhi.

Nadda stated that AIIMS has created a benchmark in the field of healthcare not only at the national level but internationally also, which should be replicated in the new AIIMS. He noted that the new institutes will be “AIIMS” and not “AIIMS-like”.

Speaking at the ceremony, Venkaiah


Naidu, said, “The profession of doctors is very noble and AIIMS has contributed significantly in providing quality healthcare. The expansion plans of the Government would not only improve medical education but will also provide greater access to world class facilities to the citizens,” Naidu added. He further said that we should have such premier institute in every state of the country and India is well on its way to becoming a medical hub in the world.

The agreement with NBCC for redevelopment envisages construction of 3060 residential apartments at Ayur Vigyan Nagar campus and 868 apartments at West Ansari Nagar Campus. The augmentation of 3928

units would take the total available residential units of AIIMS to 4505.

The agreement with HLL Infra Tech Services Limited (HITES) is for procurement of all types of medical equipment and services including medical gas distribution system, CSSD, modular operation theatres for National Cancer Institute, AIIMS, Jhajjar, Haryana. Similarly, HSCC has been selected as a project management consultant for the design, tendering, supervision of engineering components and for equipment procurement and allied infrastructure works for the proposed National Cardiovascular Institute (NCVI) at the AIIMS second campus at Jhajjar.

Venkaiah Naidu and J P Nadda also gave away the AIIMS Leadership Excellence awards at the function.

Also present at the function were Prof M.C. Misra, Director AIIMS; Prof Balram Airon, Dean (Academic) & Chief of the CTVS Centre; Prof G. K. Rath, Head, National Cancer Institute; V. Srinivas, Deputy Director (Administration), AIIMS; A. K. Mittal, CMD, NBCC; Gyanesh Pandey, Chairman, HSCC; S. N. Sathu, CEO, HITES along with senior officers of the Ministry of Health and Family Welfare and the faculty and students of AIIMS 

Max Hospital, Vaishali launches a campaign for prevention and early detection of cancer in women

Leading healthcare service provider of the region, Max Super Speciality Hospital, Vaishali recently launched a campaign called Udaan (flight) - 'Cancer in women – Prevention and early detection.' The campaign is aimed at spreading awareness about the increasing incidence of cancer in women and to salute the fighting spirit of cancer survivors.

The campaign was launched at a workshop held at Max Super Speciality Hospital, Vaishali. The hospital also launched a cancer screening program which includes free consultation by cancer expert, 50% discount on mammography, 25% on pap smear along with 20% discount on HPV vaccination.

An awareness session by cancer experts was held at the event which was well attended by women from different sectors of the society. To spread the message of Udaan - Cancer in Women, Doris Francis, well-known traffic activist and cancer survivor, also shared her experience of battling cancer.

The inauguration was done by Dr Harit Chaturvedi, Chairman - Cancer Care, Director & Chief Consultant- Surgical Oncology; Dr. Gaurav Aggarwal, Unit Head, Max Hospital, Vaishali; Dr. Arun Kumar Goel, Director (DMG) - Surgical Oncology; Dr. Dinesh Singh, Director (DMG)- Radiation Oncology; Dr. Kanika Gupta, Sr. Consultant-Gyne Oncology; Dr. Sandeep Agarwal, Sr. Consultant-Radiation Oncology; Dr. Ruby Bansal, Head, PHP; Dr Swasti, Consultant, Oncology along with Mrs Dauris Francis – Cancer Survivor (who is undergoing her treatment at Max Hospital, Vaishali).

Dr. Gaurav Aggarwal, Unit Head, Max Hospital, Vaishali, said "At Max Super Speciality Hospital, Vaishali, we salute the spirit of women who have fought against or are still fighting cancer. The aim of launching this campaign (Udaan) was to create awareness on the importance of early detection.



There is a huge challenge that needs to be addressed as most of the cancers in India are diagnosed when the tumours are big or have spread in the body. It is critical to regularly screen oneself for cancer to ensure early detection and treatment before the tumour becomes either untreatable or difficult to treat."

Dr. Arun Goel, Sr. Consultant & Head-Surgical Oncology said 'Cancer in Women – Prevention and early detection' campaign has framed a screening programme for women in order to detect cancer at an early stage and in some cases, even prevent cancers from developing in the first place."


One of the recent concerns plaguing the field of oncology is the increasing number of women who are being diagnosed with cancer. According to a study by the World Health Organization (WHO), one in 12 women in urban India is likely to develop cancer in her lifetime. Approximately 40% of new cases of cancer in India afflict women. In the past decade, breast cancer has overtaken cervical cancer as the most common cancer among women in Indian cities. Also, India has the highest rate of cervical cancer in the world. One in every 10 cancer deaths worldwide in urban India happens due to cervical cancer. What's

more alarming, 75-80% of patients are in advanced stages of the disease at the time of diagnosis. The cancers that often affect women are the following:

Breast Cancer: Across the world, breast cancer is the leading cancer amongst women. It accounts for about 14% of new cancer cases detected in India. Women between the ages of 40 and 60 years should be clinically screened, at least once every three years.

Cervical Cancer: Cervical cancer, caused by the human papillomavirus (HPV), is the second most common cancer among Indian women and accounts for roughly 12% of all new cancer cases diagnosed each year.

Oral Cancer: Globally, oral cancer is not very common, but in India, it accounts for about 7% of all new cancers diagnosed annually. Oral cancer includes cancers of the lip, mouth, palate, inner cheek, and most of the tongue.

Ovarian Cancer: Ovarian cancer is more likely to occur as women get older. Women who have never had children, who have unexplained infertility, or who had their first child after age 30 may be at increased risk for this cancer. Also, women who have used estrogen alone as hormone replacement therapy are at increased risk. 

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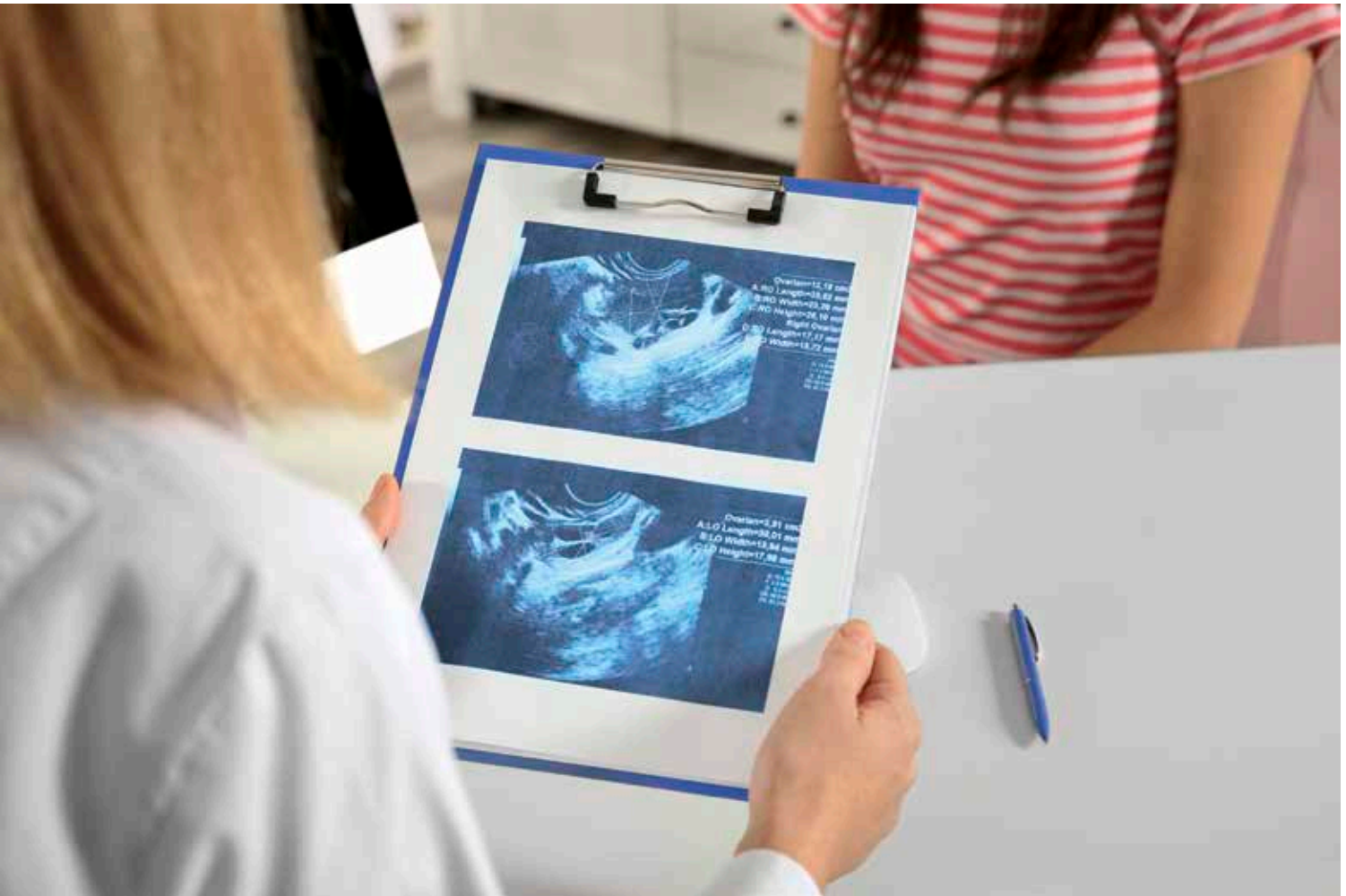
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Every Woman's Right

There is a crying need to revisit the present legal limit of abortion up to 20 weeks of pregnancy to save a mother's life, especially in view of the rapid advances in medical science

BY ABHIGYAN



After the Supreme Court's recent order allowing a rape victim to abort her abnormal 24-week-old foetus on medical grounds, which is beyond the permissible 20 weeks limit prescribed under the Medical Termination of Pregnancy Act, 1971, the entire medical fraternity has started demanding immediate implementation of the much-awaited draft Medical Termination of Pregnancy (Amendment) Bill, 2014.

The Supreme Court's decision comes on the ground of danger to the victim's physical and mental health. The victim got relief under an exception in section 5 of the Medical Termination of Pregnancy Act, 1971, which allows abortion after the permissible 20 weeks in case it "is immediately necessary to save the life

of the pregnant woman." That the case reached the Supreme Court, posing complicated and uncomfortable questions of law and morality, draws attention to the sluggishness of India's lawmaking process, and its failure to keep pace with rapid changes in science and society.

Abortion in India is legal only up to 20 weeks of pregnancy under specific conditions and situations, which are broadly defined as the continuance of the pregnancy that would involve a risk to the life of the pregnant woman or of grave injury of physical or mental health, or there is a substantial risk that if the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped.

In many parts of India, daughters are not preferred and hence sex-selective abortion is commonly

practised, resulting in an unnatural male to female population sex ratio due to millions of developing girls selectively being targeted for termination before birth.

The prevalence of illegal abortions, combined with the idea that abortion could be a mode of population control, caused the government to reconsider the law. In 1964, the Central Family Planning Board of the Government of India met and formed a committee to examine the subject of abortion from the medical, legal, social, and moral standpoints.

The Abortion Study Committee, headed by Shantilal Shah (health minister of Maharashtra) submitted its report in December 1966. This report suggested that the penal code was too restrictive and recommended that the exemptions under which abortion were permissible be



Dr Vinay Agarwal



increased and liberalized. Many of the report's suggestions were included in the subsequent Medical Termination of Pregnancy (MTP) Act, 1971 and beyond.

The Indian abortion laws fall under the Medical Termination of Pregnancy (MTP) Act, which was enacted by the Parliament in the year 1971 with the intention of reducing the incidence of illegal abortion and consequent maternal mortality and morbidity. The MTP Act came into effect from 1 April 1972 and was amended in the years 1975 and 2002.

Pregnancies not exceeding 12 weeks may be terminated based on a single opinion formed in good faith. In case of pregnancies exceeding 12 weeks but less than 20 weeks, termination needs opinion of two doctors. The Medical Termination of Pregnancy (MTP) Act of India clearly states the conditions under which a pregnancy can be ended or aborted, the persons who are qualified to conduct the abortion and the place of implementation.

In the recent past, Haresh and Niketa Mehta petitioned Bombay High Court to allow them to abort their 26-week-old foetus that had been diagnosed with a heart defect. For the first time, the national medical narrative took note of the fact that

with the advent of medical technology, pre-natal diagnosis of defects had come a long way — and some defects could be revealed after 20 weeks have passed. The Mehtas' plea was turned down on expert advice. But the court's observation that only the legislature could address the demand for change in the legal limit meant that India started the process of re-evaluating provisions of the Medical Termination of Pregnancy Act, 1971. Niketa, incidentally, had a miscarriage soon after the verdict.

Last year, a 14-year-old rape victim from Gujarat sought and received permission from the Supreme Court to abort after the 20 weeks deadline had passed. Her petition was treated as a "special case", meaning it could not be used as a precedent to grant permission in another case.

An adult woman requires no other person's consent except her own. The draft Medical Termination of Pregnancy (Amendment) Bill, 2014, on which the Health Ministry has sought and received comments, provides for abortion beyond 20 weeks under defined conditions. As per the draft law, a healthcare provider may, "in good faith", decide to allow abortion between 20 and 24 weeks if, among other conditions, the pregnancy involves substantial risks to the mother or child, or if it is "alleged by

the pregnant woman to have been caused by rape."

The draft law also takes into account the reality of a massive shortage of both doctors and trained midwives, and seeks to allow Ayurveda, Unani and Siddha practitioners to carry out abortions, albeit only through medical means, and not surgical ones.

According to **Dr Vinay Agarwal, former National President, Indian Medical Council**, the draft legislation recognises that the anguish caused by pregnancy resulting from rape "may be presumed to constitute a grave injury to the mental health of the pregnant woman", and that such an injury could be a ground for allowing abortion.

"In my opinion a revision of the legal limit for abortion is long overdue. Foetal abnormalities show up only by 18 weeks, so just a two-week window after that is too small for the would-be parents to take the difficult call on whether to keep their baby. Even for the medical practitioner, this window is too small to exhaust all possible options before advising the patient to take the extreme step," Dr Vinay Agarwal added.

Dr A K Aggarwal, Professor of Excellence and former President, Delhi Medical Council, said, "The rising incidence of sex crimes, and the urgent need to empower women with



sexual rights and choices both in their own interest and for the sake of reducing the fertility rate as a whole, have made it imperative that the law be changed. In any case and what is far more worrying is the fact that the lack of legal approval does not prevent abortions from being carried out beyond 20 weeks. And they are done in shady, unhygienic conditions by untrained, unqualified quacks, putting thousands of women at risk probably every day.”

Unsafe abortions are killing a woman every two hours in India. It amounts to 4000 deaths a year, according to estimates and calculations correlating data on maternal mortality ratio (MMR) and Sample Registration System (SRS) data by Ipas, India, an international NGO working on increasing access to safe abortion services.

Out of the 26 million births that occur in India every year, approximately 2-3 per cent foetuses have a severe congenital or chromosomal abnormality. Most countries, including the US, UK and China, which have legalised abortion, allow termination after 20 weeks in case of severe foetal abnormalities, or to protect the mental or physical health of a pregnant woman.

Dr Nirupma Singh, Senior Gynecologist who runs Mother &




Child Clinic at Vaishali, Ghaziabad, said, “Abortion is the only way to save a mother’s life. Increasingly, grounds denying abortion are being recognized to have no medical validity in view of the rapid advances in obstetrics, foetal medicine, and holistic pre-natal and post-natal health care for mothers and their babies. The rational response to life-threatening pregnancy these days is to improve positive health care delivery especially the availability of competent and compassionate psychological and physical prenatal and post-natal care for distressed mothers.”

Pre-natal diagnostic techniques like Medical Ultrasonography are capable of determining the sex of the foetus. According to The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Act, 2002, providers of sex determination tests are punishable by three years imprisonment and a Rs. 10,000 fine (five years imprisonment and

a Rs. 50,000 fine for subsequent offence); those who seek aid are punishable with a term that may extend to three years and a fine that may extend to Rs 50,000 for the first offence and for any subsequent offence with imprisonment which may extend to five years and with fine which may increase to Rs. 100,000.

Medical professionals in India have been long demanding that certain abnormalities should be included as a valid reason for MTP even after 20 weeks, empowering the woman to take the decision. Doctors hold that MTP should be allowed till the 24th week. Pregnant women are generally asked to undergo tests around the 18th week to find abnormalities in foetus. Some reports take three weeks and doctors lose on the MTP cut-off time. A little extension will come as a boon to women.

Union health ministry is still unable to present the much-awaited draft Medical Termination of Pregnancy (MTP) (Amendment) Bill, in the Parliament. The draft bill contemplates the extension of the legal limit for abortion from the present 20 weeks to 24 weeks. The ministry claims that it has posted the draft on its website for seeking the opinion of stakeholders and medical professionals. It has received various opinions related to the amendments, many of which are in disagreement of the prepared draft. So, as per sources, it is in the process of reformulating the Bill. 

A composite image showing a laboratory setting. In the foreground, a petri dish contains a ground, brownish substance. In the background, a glass jar is filled with whole almonds. To the right, a microscope is positioned over a petri dish containing whole almonds, with its objective lenses labeled '10x' and '40x'.

Securing a Better Future

INDIA NEEDS TO IMPROVE ITS TRACK RECORD ON THE FRONT OF FOOD SAFETY SO THAT THE CITIZENS CAN ENJOY HEALTHIER AND HAPPIER LIVES

BY AMRESH KUMAR TIWARY



Food safety is one of major threats to public health in India. Child deaths from diarrhea in the country are among the highest in the world due in part to poor water quality. Perhaps no city in India provides clean water that can be consumed from the tap without filtration.

As India needs FDI to maintain growth, Prime Minister Narendra Modi aims to improve India's ranking in the WEF's Global Competitiveness Index, but India's discouraging record on the issue of food safety is stymieing these efforts by presenting a picture that the country is far from ensuring good quality of food to its people.

To achieve food safety, we need appropriation of resources to regulatory units. Institutions need to be strengthened and their capacity enhanced. We require tighter strategic and operational coordination among various agencies. We need to apply restrictions and sanctions in areas needing urgent policy attention, but targeting high-profile products in an attempt to signal regulatory activity may prove to be counterproductive. The Maggi case may or may not be a legitimate health threat, but it is clear that the country's food safety and public health regulatory regimes should undergo a complete overhaul, sooner or later.

India needs to accord food safety the status of an important social and health priority. But the way one of the world's largest dairy and food products companies has chosen non adherence to food safety standards has brought food safety issues in India into much sharper focus.

Food safety has a bearing on economic growth and progress as well. In India, the food processing industry holds tremendous potential. It has high employment potential, can boost exports of agro products out of the country, and also provide better returns to farmers for their produce. However, this is possible only if food



safety standards are effectively enforced in the country.

Despite having laws in place, the country is unable to effectively enforce food safety norms and standards. One major reason for that is the insufficient number of laboratories in the country. Even today, the number of laboratories per million people in the country is far below other countries such as China and the US.

There is also an urgent need to upgrade the infrastructure in most of our food testing laboratories. Even in terms of human capital, most Food and Drug Administrations in the states operate far below the desired capacity. In fact, in many cases, laboratories have had to be shut down due to the absence of Food Analysts.

For this purpose, it might be important to encourage private sector

participation in the setting up and maintenance of laboratories. The Ministry of Food Processing runs a scheme which provides assistance to states for upgradation of laboratory infrastructure. Known as the scheme for Setting Upgradation of Quality Control/Food Testing Laboratory assistance is provided to Central/state government organizations/universities and other implementing agencies/private sector organizations.

In the first Budget presented by the Narendra Modi government at the Centre, it was announced that the Centre would provide direct assistance to strengthen states' drug and food regulatory systems by creating new laboratories and strengthening existing laboratories as well. Going forward, a collaborative effort between Centre, states and the private sector alone can



address the challenge of food safety in the country.

The country has had to witness controversies surrounding food for decades. Recently, there was a scare over Maggi instant noodles. Among other things, it highlighted shortcomings in the country's food safety network.

Additives like monosodium glutamate (MSG) were detected in Maggi noodles, although the company consistently denied using such additives. After the Food Safety and Standards Authority of India (FSSAI) discovered unhealthy levels of lead in the noodles, the Indian government banned Maggi noodles.

A laboratory in Kolkata, found seven times the legal levels of lead in Maggi 2-Minute Noodles. From there, the controversy over the food safety of

noodles dominated all media channels for months.


Similarly, inspectors picked up samples of Maggi noodles from retailers in Barabanki, a small town in Uttar Pradesh. The samples were sent to a state laboratory in Gorakhpur, which reported that labeling containing the words "No added MSG" on Maggi packets violated Indian regulations. Uttar Pradesh, where the crisis began, has only five laboratories, or one per 40 million people.

However, Nestle appealed against the government order banning sale of Maggi noodles, stating that the noodles contained MSG as the result of a natural process.

Nestle bore the cost of getting the sample from the Barabanki supermarket tested at the Central Food Laboratory in Kolkata, a

government referral lab. When the lab presented its results in a report, it said the sample had tested positive for lead.

The company challenged the test findings and stressed that its snack is safe. In its representations to the FSSAI, Nestle said the sample could have been contaminated during its lengthy transit. Though tests in six countries, including Canada, Singapore, the UK and the US, determined the product to be safe for consumption, the company still responded by destroying more than 35000 tons of the product.

However, the company argued that there are flaws in India's testing system, which often leads to inaccurate findings. Ultimately, the government's ban on Maggi noodles was overturned as the move was found arbitrary. 



Flaws in monitoring system in India

Food safety is a serious public health concern in China and India, the countries which account for one third of the world's population. In both countries, there are challenges of feeding a large, diverse population. The results are detrimental to health of the people, particularly those belonging to socio-economic sections. The two countries also need to enforce clear and consistent food regulations,

which is the responsibility of responsible and progressive governments.

In recent years, child deaths have been reported from tainted milk products in China, with the government pledging to address the safety of food sources. The rampant use of milk adulterants can cause both short-term digestive problems and long-term chronic health problems. Although the EU recently lifted a ban on imported

Indian mangoes, a number of agricultural products from India remain subject to import restrictions.

Health and safety issues have become a widespread concern as well. For example, a recent video accusing a prominent company of dumping toxic wastes has created a wave of attention on social media.

Critics argue that India's food safety standards are not at developed world standards. The U.S. Food and Drug



Administration (FDA) reportedly rejects products shipped from India, ranging from food to generic medicines and cosmetics. Given this, it is difficult to intriguing how Maggi was declared unsafe when analyses by Singapore, the United States, the U.K., and Canada suggest otherwise.

Testing and analytical capacity within food safety monitoring units in India is far from adequate. These units lack adequate equipment and expertise. India's food safety monitoring system needs complete overhaul. It is yet to acquire credibility among domestic public and international communities and investors. This hampers the government efforts to provide complete food security.


New draft regulations have been formulated by FSSAI. Of special interest is Section 22 of the FSS Act, which deals with health supplements. If these products propound nutritional

Testing and analytical capacity within food safety monitoring units in India is far from adequate. These units lack adequate equipment and expertise. The country's food safety monitoring system needs complete overhaul

or medicinal benefits they need to have sound scientific evidence. The products must not contain either steroids or psychotropic drugs. Ingredients like vitamins and minerals must conform to the recommended dietary allowances for Indians, as proposed by the Indian Council of Medical Research.

In the FSSAI regulations, food

products fall into two categories—standardized and non-standardized. The standardized food products are those for which standards are prescribed and do not require product approval prior to manufacture, sale, distribution, or import. The first time manufacturer or importer of standardized foods only requires an FSSAI license to begin a food business.

Non-standardized food products, awaiting product approval, are assessed for safety in four categories. To expedite product approval, a 90-day outer limit is now in place for completion of the application review process. It could be extended, if the product is referred to the scientific panel for further scrutiny. The 90-day time limit has three cycles of 30 days each that account for various application review stages. This facilitates applicants in tracking the application status at various stages of the approval process. 



Gravity of the issue

DR NEELAM MOHAN

According to World Health Organization (WHO), one in 10 people fall ill every year from eating contaminated food, and 420 000 people die each year as a result. Children under 5 years of age are at particularly high risk, with some 125 000 young children dying from foodborne diseases every year. However, proper food preparation can prevent most foodborne diseases.

The most common symptoms of food borne disease are stomach pains, vomiting and diarrhoea. Food contaminated with heavy metals or with naturally occurring toxins can also cause long-term health problems including cancer and neurological disorders.

Infections caused by contaminated food have a much higher impact on populations with poor or fragile health

status and can easily lead to serious illness and death. For infants, pregnant women, the sick and the elderly, the consequences of food borne disease are usually more severe and may be fatal.

Food safety issues have been long neglected in India. Globalization of food production and trade is making the food chain longer and complicates food borne disease outbreak investigation and product recall in case of emergency.

Food supply is a complex process that involves a range of different stages including on-farm production, slaughtering or harvesting, processing, storage, transport and distribution before the food reaches the consumers. Food safety is a scientific discipline describing handling, preparation, and storage of food in ways that prevent foodborne illness. This also includes a

number of routines that should be followed to avoid potentially severe health hazards.

The great majority of people in the country experience a food borne disease at some point in their lives. This highlights the importance of making sure that the food we eat is not contaminated with potentially harmful bacteria, parasites, viruses, toxins and chemicals.

Food can become contaminated at any point during production, distribution and preparation. Everyone along the production chain, from producer to consumer, has a role to play to ensure the food we eat does not cause disease

To improve food safety, a multitude of different professionals are working together, making use of the best available science and technologies. Different governmental departments

and agencies, encompassing public health, agriculture, education and trade, need to collaborate and communicate with each other and engage with the civil society including consumer groups.

Children are more prone to lead poisoning. Their smaller bodies are in a continuous stage of growth and development. Lead is absorbed at a faster rate in children compared to adults, which causes more physical harm than to older people. Furthermore, toddlers and young children, especially as they are learning to crawl and walk, are constantly on the floor and therefore more prone to ingesting and inhaling dust that are contaminated with lead. The unsafe toys with high lead level and paints are a major threat to children. The classic signs and symptoms in children are loss of appetite, abdominal pain, vomiting, weight loss, constipation, anemia, kidney failure, irritability, lethargy, learning disabilities, memory loss, and reproductive problems serious neurological and behavioral problems.

Slow development of normal childhood behaviors, such as talking and use of words, and permanent intellectual disability are both commonly seen. Although less common it is possible for fingernails to develop leukonychia striata and cancer if exposed to abnormally high lead concentration. The current reference range of acceptable blood lead concentrations in healthy person without excessive exposure to environmental sources of lead is less than $5\mu\text{g}/\text{dL}$ for children and less than $25\mu\text{g}/\text{dL}$ for adults.

The Food Safety and Standards Authority of India (FSSAI) was established in India in 2006, to consolidate the various acts and orders related to food safety and regulate their manufacture, storage, distribution, sale and import to ensure the availability of safe food for human consumption in India. Thus FSSAI was created to assist the government in framing the regulations to lay down the



standards and guidelines in relation to articles of food, guidelines for certification of food safety management and accreditation of laboratories and notification of the accredited laboratories.

The food borne illnesses could be secondary to infections caused by bacteria, viruses, parasites or due to chemical substances which enter the body through contaminated food and water.

Bacteria: The common bacterial infections that are seen due to contaminated food and water are Salmonella, Campylobacter, Escherichia coli and Cholera.

Viruses such as hepatitis A, E and Norovirus.

Fungal infection such as mycotoxins (aflatoxin)

Parasites such as cryptosporidium, entamoeba histolytica, giardia or ascaris through contaminated food and water.


Organic pollutants due to contamination of industrial waste in water such as Dioxins which affect the immune system interfere with hormones and cause cancer.

Heavy metals such as lead, cadmium, mercury are other heavy metals poisons which could result through pollution of air, water and soil.

The common symptoms of food toxicity are fever, headache, nausea, vomiting, abdominal pain, diarrhea,

dehydration and could occasionally be life threatening.

Foodborne and waterborne diarrhoeal disease kill an estimated 2 million people annually, including many children. It is the unsafe which food poses global health threats, endangering everyone. Infants, young children, pregnant women, and elderly and those with an underlying illness are particularly vulnerable to them. India contributes to a significant proportion of these deaths.

Monosodium glutamate, commonly known as MSG, is used as a flavour enhancing agent, in many kinds of food products. It is more commonly used in Chinese food products. The amount of glutamate used in foods is usually within the range of 0.1% to 0.8% of the food as it is served. This is similar to levels of naturally occurring glutamate found in traditional dishes. However, when monosodium glutamate exceeds the safety limits then it results in various symptoms such as headaches, asthma attacks, dizziness and other neurological symptoms. The proper labeling is important to avoid excess use of these products. 

(The author is associated with the Department of Paediatric Gastroenterology, Hematology & Liver Transplantation, Vedanta Hospital, Gurgaon)



Dr K K Aggarwal receiving the Padma Shri Award from Smt Pratibha Patil, the then President of India

Committed to Compassion

Dr K K Aggarwal

Today when materialism has crept into the medical field too, Dr K K Aggarwal stands out as a distinguished doctor with unwavering compassion and sense of service to the suffering humanity. Living up to Shakespeare's golden words "One man in his time, plays many parts", he is a multi-faceted healer who dons several hats in his passion to make the world a better place to live in for mankind

BY AMRESH KUMAR TIWARY



Receiving Dr B C Roy National Award from Smt Pratibha Patil, the then President of India

In the present era of materialism and crass commercialisation, the doctor's profession too has taken a beating; it has been reduced to a money-minting career, instead of a service to the suffering humanity, for many practitioners of medical field. Still, there are some doctors who have not lost their healing touch, care, sensitivity, and humbleness to wipe tears of their patients. Padma Shri and Dr B C Roy National Awardee, Dr K K (Krishan Kumar) Aggarwal is an outstanding example of such worthy medical professionals who are on a mission to make a difference in the world around them by their selfless spirit to serve the mankind.

A Gold Medallist from Nagpur University and a medical communicator par excellence, Dr Aggarwal has a deep-rooted concern for the weaker

sections and worked extensively in the area of life saving drug bank, pacemaker bank and free health check up camps. He runs a heart care foundation helpline and heart care foundation drug bank. His aim in life is to conceptualize cost effective health awareness modules and to propagate low cost medicare.

His life is an inspiration to young doctors to inherit his empathy, efficiency and humility with which he has been serving the unending stream of his patients from India and abroad. Currently, he is the National President of Indian Medical Association and also Vice President of Confederation of Medical Associations in Asia and Oceania (CMAAO).

Born on 5th September, 1958, he was the 7th child in a family of five brothers and four sisters. With such large family, his parents used to live in

a one-bed room set in Hauz Qazi, Old Delhi. From 1st to 4th Class, he studied in a Muslim school and later joined ASVJ Higher Secondary School in Daryaganj where he was a very shy student, earning the soubriquet of *Jhepu*. He did his graduation in Zoology (Hons) from Deshbandhu College, New Delhi. Those days he had his hairs till his shoulders.

The turning point in Dr K K Aggarwal's life came when in 1975 he joined MGIMS Medical College in Sevagram, 80 km from Nagpur. Here he topped the Nagpur university, received gold medal and was declared as the Best Graduate of the College in 1979. He did MD (Medicine) from the same college and passed out in 1983. He left lecturership in MGIMS and DM from G B Pant Hospital to join Dr K L Chopra as his junior in Moolchand Hospital.



Receiving the Vishva Hindi Samman from Union Home Minister Rajnath Singh at the 10th Vishva Hindi Sammelan. Madhya Pradesh Chief Minister

After his MD in Medicine, he joined Moolchand Hospital in 1983 and became a consultant after five months of residency by getting out of turn promotion. During his medical career, he underwent training in Immunology under Dr A N Malviya, mind body, medicine under Dr Deepak Chopra and non invasive cardiology under Dr Navin C. Nanda. Along with Dr. K L Chopra, he was the first one to start clot dissolving therapy in acute heart

attack in 1984. He started Heart Care Foundation of India in 1986 of whom he is currently the President.

He brought the technology of colour doppler echocardiography in 1987 in India and In the scientific field he has many firsts to his credit. He started the clot dissolving streptokinase therapy along with Dr K L Chopra for the first time in the country in 1984. He introduced the techniques of colour doppler echocardiography and started

Navin C Nanda National Institute of Echocardiography and Cardiac Research.

He conceptualized and organized the first ever “Perfect Health Mela” and “Run for your Heart” in 1991. On both these occasions, the Govt. of India released national postal commemorative stamps. The Perfect Health Mela organised at Talkatora Gardens with Delhi Administration in 1993 was declared as the best event



Dr Shivraj Singh Chouhan is also seen in the picture

in Asia by BBC news. Ever since, the Mela is being organised annually by him. Ministry of Family Welfare and later the Union Ministry of Health and Family Welfare, adopted this module under the National Health Policy. He also organized the first ever mega tele medicine camp and the government again released postal commemorative stamp.

Dr Aggarwal's passion is to teach everyone how to revive after sudden



Formula of 10 (CPR-10): To revive after sudden death, within 10 minutes of cardiac arrest (earlier the better) for the next atleast 10 minutes (longer the better), compress the centre of the chest of the victim, continuously and effectively, with a speed of atleast 10 x 10 (i.e.100) per minute.

death and through Sameer Malik Heart Care Foundation Fund; he supports heart surgeries to those who cannot afford it. His another passion is to correlate Indian mythology with modern medicine. He writes extensively on cultural subjects. Out of them, Dr K K Aggarwal's Ramayana is well known in the society.

He conceptualized the concept of health sutras which are of immense public health importance. Some of

them are:-

Food of plant in origin contains no cholesterol

- Cough with fever is viral & needs no antibiotic
- Any food which is bitter & green has anti diabetic properties
- Keep your BP, fasting sugar, abdominal circumference, bad cholesterol level and heart rate all lower than 80.
- If any unusual symptoms appears

Dr K K Aggarwal's formula of 80

1. Keep your lower BP, fasting sugar, abdominal circumference, resting heart rate and bad LDL cholesterol levels all <80.
2. Walk 80 minutes a day; brisk walk 80 minutes a week with a speed of 80 (atleast) steps per minute.
3. Eat less, not more than 80 g/80 mL of caloric food in one meal.
4. Do not eat refined cereals 80 days in a year.
5. Take vitamin D through sunlight 80 days in a year.
6. Do not drink alcohol and if you cannot avoid it, take less than 80 ml of whiskey (80 proof 40% alcohol) in a day or less than 80 g (240 mL) of whiskey in a week.
7. Do 80 cycles of Pranayama in a day with a speed of 4 breaths/minute.
8. Do not smoke or be ready for heart surgery costing at least Rs 80 thousand.
9. If you are a heart patient, ask your doctor to give 80 mg of aspirin and 80mg of atorvastatin.
10. Donate blood 80 times in a lifetime.
11. Avoid an exposure to >80 dB of noise pollution.



for the first time or cannot be explained, do not ignore it

He has been the first one to organize conferences for the doctors and release practical guidelines for the general public during the epidemics of dengue, plague, meningococcal meningitis, leptospirosis, and epidemic dropsy. He holds the distinction of organizing eleven World Conferences on Cardiology, Medical CME Programs and health events in the country. He has been training nursing students for the last 15 years (education, interactive competitions etc). He was responsible for the training on first aid and CPR for all PCR vans in Delhi during Raja Vijay Karan's tenure as police commissioner; training of DTC drivers on First Aid

under Dept. of Transport and training of students and school principals on subjects like HIV-AIDS, road safety under the Delhi Government.

Dr Aggarwal has served the Medical Council of India as member, Medical Ethics Committee and as a council member at the Delhi Medical Council. He is very active in the Indian Medical Association and has been working tirelessly for the issues of public and medical doctors.

Dr Aggarwal is a man of many parts. Apart from being a senior cardiologist, mind body consultant and a world class clinical echocardiographer, he is also a writer, anchor, orator, columnist, health communicator, social worker/activist, educator, conceptualizer,



creator, preacher, administrator, advisor, researcher and meditation teacher par excellence.

He is also Editor-in-Chief, IJCP group of publications that brings out over journals, newspapers and health care educational products catering to doctors. He is a prolific writer on community health subjects. He has contributed over 400 articles in newspapers and magazines and appeared frequently in Radio & TV talks on health. He is one of the most quoted doctors in the field of health and has been quoted over 12,000 times in the national media.

Dr Aggarwal is a multifaceted healer & a soul preacher. He promotes & integrates all systems of medicine. He

Awards received by Dr K K Aggarwal

A Paul Harris Fellow from Rotary International, Dr K K Aggarwal has received many prestigious awards, some of are mentioned below:

- 1. Padma Shri (2010)**
- 2. Healthcare Personality of the Year Award by FICCI ((2016)**
- 3. Vishva Hindi Samman (2015)**
- 4. National Science Communication Award (2015)**
- 5. Dr B C Roy National Award (2005)**
- 6. Delhi Hindi Sahitya Samellan - Sahitya Shree award**
- 7. Harpal S Buttar Oration Award by the 6th International Conference of International Academy for Cardiovascular Sciences Video - Photo**
- 8. DMA Doctor of the last centenary award (2014)**
- 9. Dr D S Mungekar National IMA Award (1991)**
- 10. GPCON - Dr F P Antia Oration**
- 11. DMA Vishisht Chikitsa Award**
- 12. Delhi Medical Association Swasthya Health Ratna (2005-06)**
- 13. DMA Nursing Home Forum Medical Statesman and Communicator of the Last Decade (2005-6)**
- 14. DMA Dr B N Behl Foundation Award (1992-93)**
- 15. Cardiology Society of India Mumbai Branch Dr KK Datey Oration (1993)**
- 16. Rajiv Gandhi Excellence Award (1993)**
- 17. Indira Gandhi Priyadarshini Award (2003)**
- 18. Rashtriya Gaurav Samman(2002)**
- 19. Abhipra Samaj Seva Puraskar**
- 20. The Great Son of the Soil Award (1996)**
- 21. IMA New Delhi Branch Swasthya Ratna Award (2002)**
- 22. IMA New Delhi Branch Life Style Interventional Cardiologist of the Last Decade Award (2003)**
- 23. IMANDB Health Communicator of the Last Decade Award(2002)**
- 24. IMANDB Life Time Achievement Award (2004)**
- 25. Rafi Award of Excellence (2008)**



MANY FIRSTS FROM DR K KAGGARWAL

Health Durbar; Perfect Health Parade; Health Tambola; KaunBanega Healthy Crorepati; Tongathon March, Health Break (Break keBaad); Walks on Health subjects; Tempothon; Mr. Tobacco- an anti-Tobacco campaign; Delhi Minister’s Pledge to Boycott Tobacco promoting functions; Take Care of your Sweet Heart Glow Red Campaign; 100 meters race for the patients with knee pain or replaced knee; Green Concert on World Environment Day; Tobacco effigies burning with all rituals at cremation ground; health awareness using the kites with health messages; health awareness through competitions (school, college, dance schools, RWA and inter organizations), design of low cost educational modules like Health Playing Cards; Miniature Health Books; Health Games like Snake and ladder, Ludo, Dart, besides Fun and Recreation for the common masses.

Situation: An adolescent girl was being evaluated for sexual assault.

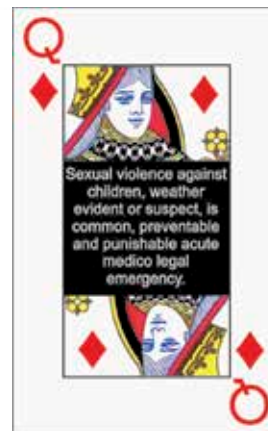
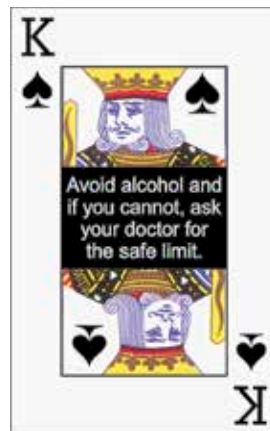
Dr. BAD



Dr. GOOD



Lesson: For children and adolescents decision regarding HIV prophylaxis is usually made on case to case basis. The factors are the likelihood of abuser being HIV positive the nature of sexual contact, number of abusers, whether there was transfer of secretions, injury to local parts and time elapsed since first contact. (Copyright Dr KK Aggarwal)




established the department of Holistic Medicine at Apollo hospital in 2000; writes regularly in national newspapers and magazines

wrote regularly for the HT UK edition; produced and co-directed 52 episodes on “Body Mind and Soul” on DD News; coordinated 102 episodes of live phone-in TV programme “Healthy India” for DD Bharti with specialists on all pathies; 32 programs for Lok Sabha TV; conducts regular workshops on meditation and advocates need for introducing the subject of Spiritual Medicine in MBBS curriculum.

He conceptualized the idea of

involving politicians, bureaucrats and celebrities in disseminating health messages to the community utilizing the principle ‘Hit the Iron When It is Hot’ and ‘Involving People Who Count’. He has involved famous past and present cricketers, film stars, TV stars, models, dancers; fashion designers to interact with the media on health related topics or distributing personalized health messages signed by them.

His wife Dr Veena Aggarwal is a gynecologist with who runs medical and public communication along with son Nilesh and daughter Naina. 



The newly elected Honorary Secretary General of IMA, Dr R N Tandon is committed to uphold the cause of affordable, quality healthcare as well as promote the welfare of the medical community in India

STRIVING FOR THE GREATER GOOD

To further the cause of healthcare and the welfare of medical community in India, Dr R N Tandon has recently taken charge as honorary Secretary General at Indian Medical Association (IMA), the largest representative organisation of doctors of modern scientific medicine in the world with over 2.8 lakh registered members.

He has been associated with the national body for the last 28 years. Earlier, he served the Karol Bagh Branch of IMA as its Joint Secretary, Finance Secretary, Secretary and President, respectively.

Under his able guidance, various projects like contraceptive updates, treatment of diarrhoea, ORS-Zinc, breastfeeding, how to reduce infant mortality and prevention of child sexual abuse have received nationwide success. He has taken the IMA to great height in making its voice heard at the national as well as global level. He has been associated with UNICEF, UNFPA and

Govt. of India for decades in various projects of crucial significance.

Dr Tandon belongs to Lucknow; he did his MBBS from Maharani Laxmibai Medical College, Jhansi and completed his MS in 1984. Subsequently, he moved to Delhi and joined Safdarjung hospital, and St. Stephen's Hospital. In 1988 he joined Jessa Ram Hospital as Surgeon. With his great dedication, efforts and involvement in the affairs of people in general and medical profession in particular, a Department of Surgery was started at Action Balaji Hospital in New Delhi.

Dr Tandon has vowed to live up to the noble objectives of IMA, prominent of which are the following:

- To promote and advance medical and allied sciences in all their different branches and to promote the improvement of public health and medical education in India.
- To maintain the honour and dignity and to uphold the interest of the medical profession and to promote co-operation amongst the members thereof.


- To work for the abolition of compartmentalization in medical education, medical services and registration in the country, and, thus, to achieve equality among all members of the profession.

The founding fathers, way back in 1928, while struggling for liberation of the motherland from the British rule, simultaneously felt the need of a national organisation of the medical profession. Before that, some members of the profession - a selected few - were members of the British Medical Association, which had opened branches in India to cater to the local needs. These stalwarts ultimately succeeded in formation of Indian Medical Association (IMA) and reached an agreement with the British Medical Association that they will have no branch in India.

In the year 1946, IMA helped in the formation of a world body, namely World Medical Association (WMA), and thus became its founder member. As an organisation IMA has been, and continues to play an important role in its deliberations. It hosted the III World Conference on Medical Education under the joint auspices of WMA and IMA in New Delhi in 1966.

According to Dr R N Tandon, IMA is the only representative, national voluntary organisation of doctors of progressive, scientific system of medicine, which looks after the interest of doctors as well as the well being of the community at large. Today, IMA is a well established organisation with its headquarters at Delhi and several branches in 29 states and union territories.

Dr Tandon has also worked as Surgeon in Jaipur Golden Hospital and Vinayak Hospital in New Delhi. He was coordinator of Jessa Ram Hospital, Delhi. In 1988, he joined the well known Karol Bagh Medical Society as an activist and Joint Secretary. He has held various posts in almost all the wings of IMA HQs such as Asstt. Secretary, Joint Secretary, Finance Secretary and other important posts. He has also held various important posts in Delhi Medical Association (DMA).

His wife Dr Vibha Tandon, Gynecologist, is a renowned SAG-CMO in Kasturba Gandhi Hospital in Delhi. He is blessed with two sons Shreya, and Aashrit. 

Stimulating the Life Force

Ayurvedic massage or “Abhyanga” aids the movement of Prana, the vital energy in the body. A deeply relaxing and rejuvenating experience, it nourishes the body, and provides better physical stability

BY AYURVEDACHARYA DR PARTAP CHAUHAN

According to Ayurveda, everything is constituted of the pancha mahabhutas or the five elements - ether (akasha), wind (vayu), fire (agni), water (jala), and earth (prithvi). Living beings have an additional element: prana. Prana stands for the life force, a primordial energy, and is involved in physical, mental, and spiritual health and strength.

Prana is a Sanskrit word meaning “breath” and is understood as the vital, life-sustaining force of living beings and the vital energy pervading all natural processes of the universe. It is a central concept in Ayurveda and Yoga where it is understood to flow through a network of fine subtle channels called nadi. It is the life energy which activates the body and mind.

This energy circulates in the body through food, drink, and breath, and gives life and animation to the living organism. However, due to disease or improper foods and lifestyle, it meets with blocks as it traverses through various energy channels. Massage is a therapy that helps remove these blocks and aids the circulation of vital



energy in the body.


Ayurvedic massage, or “Abhyanga”, is a part of the traditional detoxification and rejuvenation program of Ayurveda called “Panchakarma”, in which the entire body is rhythmically massaged with large amounts of warm oil and herbs to remove toxins and blocks from the system. The rhythmical and

deeply relaxing movements of the massage remove stagnant energy and move the prana or life force to stimulate your body’s vital energy.

The history of Ayurvedic massage dates back several centuries to healers who worked miracles with their hands. Massage, as a therapeutic and healing therapy, is known to have been practiced by the ancient Indian physicians, Sage Charaka, Sage Sushruta, and Sage Vagbhata. Warriors and soldiers had to undergo mandatory massage routines during their training period, because massage helped limb manipulation and improved agility in general.

The literal meaning of massage is manipulation of the soft tissues of the body using the hands. In Ayurvedic treatment, massage is done in a traditional manner typically with application of medicated herbal oils. Different ailments require specific massage techniques, which the therapist selects keeping the individual’s condition in mind.

The basis for effectively performing the various Ayurvedic massage techniques is a thorough understanding of the primordial energies of the five elements (ether, air, fire, water, and earth) and of vata, pitta, and kapha - the three basic constitutional types. This knowledge allows the therapist to customize treatments and determine the speed, force, number of repeated massage movements, type of herbal oil, and the massage technique suitable to the person’s physical strength, age, and ailment.

Ayurvedic Massage is a deeply relaxing and rejuvenating experience. Regular massage protects from stress, anxiety, exhaustion, and Vata disorders. Abhyanga nourishes the body, extends the life span, provides good sleep, improves the skin texture, improves the vision, and provides better physical stability. It has excellent benefits in the treatment of certain illnesses too. 

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



Mankind Under Threat

Human beings are vulnerable to various infectious diseases or zoonoses, which are transmitted from animals. Here we present an in-depth study of these deadly infections, the strategies for their prevention and their possible cures

BY DR SUNEELA GARG & DR NEHA DAHIYA



Zoonoses is defined as an infection or infectious disease transmissible under natural conditions from vertebrate animal to man. Based on the direction of transmission these are classified as Anthroozoonoses, which are infections transmitted from animals to man for example rabies, plague, etc. Zooanthroponoses are infections, which are transmitted from man to animals for example human T.B. in cattle and amphixenosis are infections, which are transmitted in either direction between animals and man for example trypanosoma cruzi and schistosoma japonicum.

Humans have enjoyed a long and intimate



relationship with other animals. Some animals are reared to provide food, milk or clothing and some for recreational purposes which predisposes to zoonotic disease. Zoonoses of public health importance are rabies, yellow fever, Kyasanur Forest Disease, Japanese encephalitis, Brucellosis, Salmonellosis, Taeniasis, Leishmaniasis, and Hydatid Disease.

Rabies

Rabies is a dead end infection in man caused by lyssavirus type 1. There are two types of rabies virus: street virus and fixed virus. Incubation period is 3-8 weeks and it depends on severity of wound and infection. Mode of transmission of virus is from rabid animal bite (dogs, cat, monkeys), licks on abraded skin and mucosa. Its movement from person to person is rare but possible.

Wild Animals ==> Dogs, cat, monkeys ==> Man

Human attraction to recreational

activates in wildlife also contributes to the increased prevalence of the disease. Initial signs and symptoms of rabies are nonspecific such as fever and headache but as the infection progress it causes inflammation of brain and meninges, paralysis, anxiety, insomnia, confusion, paranoia, hallucinations progressing to delirium and coma. Prevention strategies for rabies includes wound management and anti rabies vaccine which are available for intradermal and intramuscular use (Essen regimen for intramuscular use Day 0,3,7,14,28; purified chick embryo cell vaccine Rabipur and updated thai regimen for intradermal use on Day 0,3,7, 28 purified vero cell rabies vaccine Verorab and Abhayrab) and for pre exposure prophylaxis on day 0,7,21/28. Anti-rabies serum such as horse anti-rabies serum and human rabies immunoglobulin are used in case of category 3 wound management.

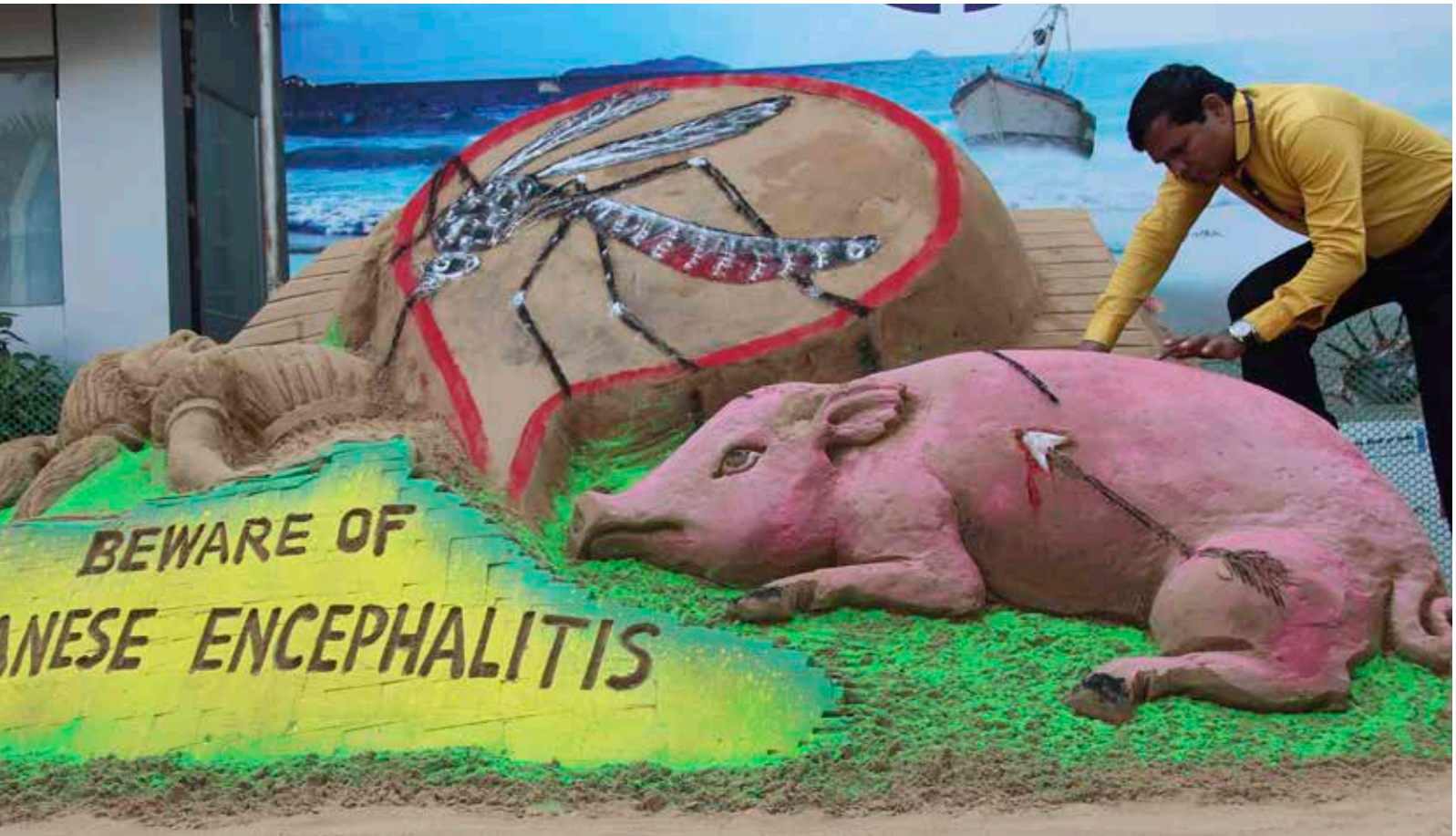
Another approach for rabies prevention is immunization of dogs. Primary immunization at 3-4 months and boosters at regular intervals. Most cost effective approach for control of urban rabies is elimination of stray dogs and mass immunization of dogs of an area; at least 80% of entire dog population of an area must be immunized.

Japanese Encephalitis

Japanese Encephalitis is caused by group B arbovirus. In India, the disease is endemic in 18 states – Assam, Bihar, Haryana, Uttar Pradesh, Karnataka, West Bengal and Tamil Nadu report its outbreak every year and contribute to 80% of cases and deaths.

PIG ==> MOSQUITO ==> PIG
ARDEID BIRD ==> MOSQUITO
==> ARDEID BIRD

Pigs themselves do not manifest overt symptoms but circulate the



virus. Horses are only domestic animals which show signs of encephalitis due to JE virus. Birds such as pond herons, cattle, poultry and ducks are also involved in natural history. Vectors are the culicine mosquitoes. Incubation period of Japanese encephalitis in man is 5-15 days and majority of infections are asymptomatic. Fever, headache and malaise are the nonspecific symptoms which last for 1-6 days. It causes acute encephalitis stage which is characterized by neck rigidity, cachexia, hemiparesis, convulsions and raised body temperature. Lifelong neurological defects such as deafness, emotional ability and hemiparesis may occur in those individuals who had central nervous system involvement. 85% of cases occur in children < 15 years of age. Prevention of Japanese encephalitis is done by vaccination with single dose of live attenuated vaccine (SA14-14-2), followed by

single booster given at an interval of 1 year. Now this vaccine is also given in endemic states as a part of universal immunization programme. It also necessitates vector control by aerial and ground fogging with ultra low volume insecticides. The spraying should cover the vegetation around the houses, breeding sites and animals shelters in the affected villages. The use of mosquito nets should be advocated.

Kyasanur Forest disease

Kyasanur Forest disease is also known as monkey disease. Causative agent is group B togavirus. Rats and squirrels act as a reservoir of infection and pigs as amplifier hosts.

**Rats and Squirrels ==> Ticks
Cattle ==> Man**

Man is an incidental dead end host. The symptoms of the disease include high fever with frontal headaches,

hemorrhagic symptoms such as bleeding from throat and gums, vomiting, muscle stiffness, tremors and absent reflexes. In India hard tick acts a vector of KFD. Prevention of Kyasanur Forest disease is done by control of ticks, restriction of cattle movement, vaccination and personal protection through repellants.

Salmonellosis

Animals ==> Man ==> Animal

Salmonellosis is one of the most common and widely distributed food borne diseases and is caused by the bacteria salmonella. Human salmonellosis represents 60-80% of all reported cases of food borne diseases. Salmonella typhimurium, S enteritidis can infect both man and animals. The source of infecting agent could be contaminated food (mainly of animal origin), animals like farm animals which may frequently be intestinal carriers of the organisms and because generally no symptoms



of disease is observed, these animals pass veterinary slaughter house inspection easily, man or the environment (widely distributed in dust, milk, water, manure, sewage, sludge, vegetation). They can survive in soil for months. Human infections occur when animal products are improperly handled during final preparation which can happen at home or large kitchen of restaurants, hospitals and factories. Once man is infected, he becomes a source and the infections may spread to others by the fecal-oral route. It is usually characterized by acute onset of fever, abdominal pain, diarrhea, nausea and sometimes vomiting. The onset of disease symptoms occurs 6-72 hours (usually 12-36 hours) after ingestion of salmonella, and illness lasts 2-7 days. Since it's a zoonotic disease preventive measures include the farms, animal products, processing, final food preparation to consumption. Approaches required at farm levels are a) disease control which includes immunization of farm animals against salmonellosis b) use of hygienic animal feed c) sanitary environment for the animals d) hygienic slaughtering and milking, pasteurization of milk and eggs, proper disposal of liquid and

solid wastes, cold storage facilities and health education and training.

Leishmaniasis

Leishmaniasis is caused by leishmania donovani, tropica, braziliensis. Dogs, jackals, foxes, rodents and other mammals acts as a reservoir of infections but Indian leishmaniasis is a non zoonotic infection. Man acts as only reservoir and female phlebotamine sandflies which lives in cracks and crevices of walls, tree holes caves acts as vector.

Dogs, Jackals and Rodents ==>Sandflies==>Man

Man ==>Sandflies==>Man

This infection is transmitted through bite of female phlebotamine sandflies, contamination of bite wound, crushing of insect while feeding and blood transfusion. Incubation period varies from 10 days to 2 years. The symptoms are skin sores which erupt weeks to months after person bitten by infected sand flies. Cutaneous leishmaniasis is the most common form which also resembles leprosy and may not heal itself. Visceral leishmaniasis or kala azar is the most

serious form and causes enlarged spleen and liver.

Leishmaniasis is diagnosed through aldehyde test of napier and serological tests such as ELISA, rk39 dipstick test, indirect fluorescent test and direct agglutination test. Leishmaniasis can be prevented by taking appropriate control measures in animal reservoirs for example dogs and rodents. Sandfly control by application of residual insecticide is also a useful measure combined with sanitation measures like elimination of breeding places for example cracks in muds or stone walls, rodents burrow, location of cattle sheds and poultry at a distance from human dwelling. The risk of infection can further be reduced by health education and personal prophylaxis.

Bovine tuberculosis

Bovine tuberculosis is a chronic zoonotic infection in India. It is caused by mycobacterium tuberculosis, M. bovis, M. cosmeticum, M. Bovis is considered as most common in cattle which can be transmitted to man through milk and meat. In bovine after



infection nonvascular nodular granulomas known as tubercles may develop. In humans, symptoms are similar to human T.B including weight loss, fever, night sweat and persistent cough. Bovine tuberculosis infection in cattle is usually diagnosed in the live animal on the basis of delayed hypersensitivity reactions. Rapid nucleic acid methodologies such as PCR but traditional mycobacterial culture remain the gold standard method for routine confirmation of infection. Most of the abattoirs in India do not have diagnostic facility. Bovine tuberculosis can be controlled by proper sanitation and vaccination of slaughter bovine. Inspection during postmortem of infected carcasses with bovine tuberculosis lesions in its organs can be rejected but in India such rejection rarely meets in action. The food handlers should also undergo medical examination whether having tuberculosis or not. The frozen buffalo meat should pass through gamma irradiation to kill and form safe production of buffalo meat at abattoir. Therefore, proper implementation of meat inspection procedures during slaughtering with public awareness are important to control bovine tuberculosis in India.

Taeniasis

Taeniasis is caused by taenia saginata and t.solium. The parasite is global in distribution where beef is eaten. Human cysticercosis caused by t.solium is more important public health problem than human taeniasis. It is transmitted through the ingestion of infective cysticerci in undercooked beef or pork, through ingestion of food, water or vegetables contaminated with eggs, reinfection by the transport of eggs from the bowel to the stomach by retroperistalsis.

T. Saginata ==>Cattle==>Man

T. Solium ==>Pigs==>Man

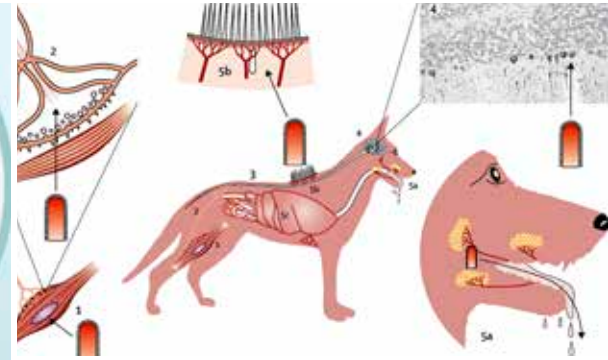
Incubation period varies from 8 to 14 weeks. Taeniasis is generally asymptomatic and is diagnosed when a portion of the worm is passed in the stool. Heavy infection is indicated by intestinal irritation, anemia, indigestion. It also causes neurocysticercosis which can be fatal. It can be prevented through treatment of infected persons, meat inspection, health education, adequate sewage treatment and disposal. Also required are education of public to prevent pollution of soil, water and food with human faeces and washing of hands before eating and after defecation.

Hydatid disease

Hydatid disease is caused by echinococcus granulosus. The prevalence of disease is high in food animals in India. It is a dog sheep cycle with man as an accident intermediate host. Hydatid disease is an occupational disease of certain groups for example shepherds and their families in endemic areas and shoe makers.

Dog ==>Sheep==>Dog


Human infections occur by ingestion of eggs of echinococcus with food, unwashed vegetables or water contaminated with faeces from infected dogs. The disease in humans is manifested as presence of cysts in liver, lung and other organs in the body such as spleen, brain, heart and kidneys. It is prevented through preventing dogs from gaining access to raw offal at slaughter houses and on farms and to dead animals. Also needed are elimination of stray dogs, surveillance of dogs based on periodic stool examination after administration of teanifuge drug and health education of public mainly of butchers, dog owners, animal breeders and shepherds.



Avian influenza or bird flu

Avian influenza is caused by influenza virus A which is a zoonotic infection with a natural reservoir almost entirely in birds. It strains are divided into two types based on pathogenicity high pathogenicity or low pathogenicity. The most well-known HPAI strain H5N1 appeared in China in 1996. It is spread by contact between infected and healthy birds, can also be spread indirectly through contaminated equipment.

Bird ==> Bird ==> Humans

The virus is found in secretions from the nostril, mouth and eyes of infected birds as well as their droppings. It spread to people often through direct contact with infected poultry, such as during slaughter or plucking but human to human contact is much more difficult without prolonged contact. High risk include poultry farm workers, wildlife biologist and ornithologists who handle live birds. Signs and symptoms of avian influenza A virus in humans include conjunctivitis, influenza like symptoms to severe respiratory illness for example shortness of breath, difficulty in breathing, pneumonia, acute respiratory distress, viral pneumonia with multiorgan disease. It can be prevented through use of personal protective equipment which include aprons, boots, bootcover, gloves, N-95 respirator and a powered air purifying respirator (PAPR) with hood or helmet and face shield. Mass vaccination of poultry, culling can also be used to decrease the threat of avian influenza transmission by killing potentially infected birds. 

Q fever

Q fever is caused by coxiella burnetii. It is only rickettsial disease without any vector. This naturally infects some animals such as goat, sheep and cattle. It is transmitted through inhalation of infected dust, aerosol transmission, direct contact, contaminated food like meat, milk and milk products. The common symptoms include high fever, chills or sweats, cough, chest pain, headache, clay coloured stools, nausea and diarrhea. It is prevented through pasteurization and boiling of milk.

Brucellosis

Brucellosis in humans is known as malta fever or Mediterranean fever. It is a public health problem worldwide. It is endemic where cattle, pigs, goats and sheeps are raised. It is caused by coccobacilli of genus brucella and four species B.melitensis, B abortus, B suis, and B canis. Main reservoir of human infection are cattle, sheep, goats, swine, buffaloes, horses and dogs.

Cattle ==> Brucella ==> Man

The infected animals excrete

brucella in urine, milk, placenta, uterine and vaginal discharges particularly during birth or abortion and animal may remain infected for life. Farmers, shepherds, butchers and abattoir workers, veterinarians and lab workers are particularly at risk. It is transmitted through contact infection, food-borne infection, unpasteurized milk, undercooked meat and air borne infection. In humans symptoms include continuous or intermittent fever, headache, weakness, chills, joint pains and weight loss. It is prevented through preventing infections in animals by mass case finding and slaughtering animals with full compensation paid to farmers, vaccination of animal by B.abortus strain 19 and hygienic measures like clean sanitary environment for animals, sanitary disposal of urine and faeces, veterinary care of animals and health education to occupational workers. Pasteurization of milk and protective measures to prevent direct contact with infected animals and vaccination for humans B.abortus strain 19-BA is also available.

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The Disease and Safeguards



The government has issued detailed guidelines with regard to Zika virus as it is transmitted through the bite of the same Aedes mosquito that also transmits dengue virus

BY DR ARVIND GARG/DR SUNEELA GARG

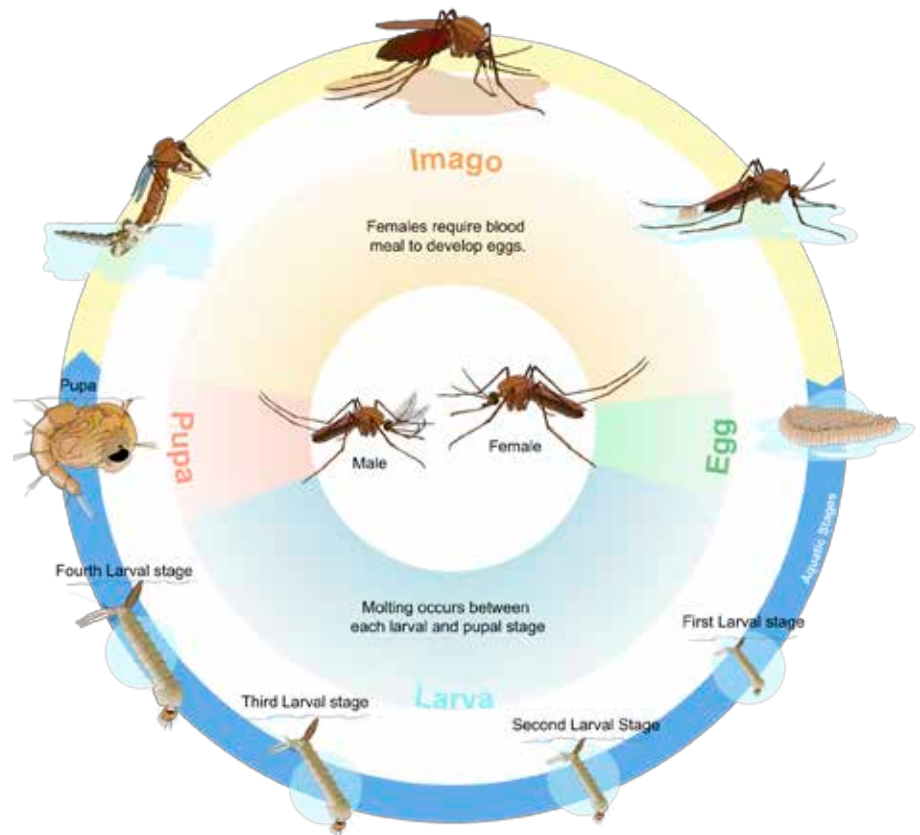
Zika virus disease is an emerging viral disease transmitted through the bite of an infected *Aedes* mosquito. This is the same mosquito that is known to transmit infections like dengue and chikungunya. Zika virus was first identified in Uganda in 1947.

The World Health Organization (WHO) has reported 22 countries and territories in Americas from where local transmission of Zika virus has been reported. Microcephaly in the newborn and other neurological syndromes (Guillain Barre Syndrome) have been found temporally associated with Zika virus infection. However, there are a number of genetic and other causes for microcephaly and neurological syndromes like Guillain Barre Syndrome.

Zika virus disease has the potential for further international spread given the wide geographical distribution of the mosquito vector, lack of immunity among population in newly affected areas and the high volume of international travel. As of now, the disease has not been reported in India. However, the mosquito that transmits Zika virus, namely *Aedes aegypti*, that also transmits dengue virus, is widely prevalent in India.

A majority of those infected with Zika virus disease either remain asymptomatic (up to 80%) or show mild symptoms of fever, rash, conjunctivitis, body ache, joint pains. Zika virus infection should be suspected in patients reporting with acute onset of fever, maculo-papular rash and arthralgia, among those individuals who travelled to areas with ongoing transmission during the two weeks preceding the onset of illness.

Based on the available information of previous outbreaks, severe forms of disease requiring hospitalization are uncommon and fatalities are rare. There is no vaccine or drug available to prevent/ treat Zika virus disease at present.



The WHO has declared Zika virus disease to be a Public Health Emergency of International Concern (PHEIC) on 1st February, 2016.

Zika virus disease has been reported so far in the following countries; Brazil, Barbados, Bolivia, Columbia, Dominican Republic, Ecuador, El Salvador, French Guyana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, St Martin, Suriname, Virgin Island and Venezuela. It may be noted that this list is likely to change with time. Hence, updated information should be checked periodically.

In the light of the current disease trend, and its possible association with adverse pregnancy outcomes, the Directorate General of Health Services, Ministry of Health and Family Welfare has issued the following guidelines on the Zika virus disease:

Community based Surveillance

- Integrated Disease Surveillance

Programme (IDSP) through its community and hospital-based data gathering mechanism would track clustering of acute febrile illness and seek primary case, if any, among those who travelled to areas with ongoing transmission in the 2 weeks preceding the onset of illness.

- IDSP would also advise its state and district level units to look for clustering of cases of microcephaly among newborns and reporting of Gullian Barre Syndrome.
- The Maternal and Child Health Division (under NHM) would also advise its field units to look for clustering of cases of microcephaly among new-borns.

International Airports/ Ports

- All the International Airports/Ports will display billboards/signage providing information to travelers on Zika virus disease and to report to custom authorities if they are returning from affected countries and suffering from febrile illness.



- The Airport/Port Health Organization (APHO / PHO) would have quarantine/ isolation facility in identified Airports.
- The Directorate General of Civil Aviation, Ministry of Civil Aviation will be asked to instruct all international airlines to follow the recommended aircraft disinsection guidelines
- The APHOs shall circulate guidelines for aircraft disinsection (as per International Health Regulations) to all the international airlines and monitor appropriate vector control measures with the assistance from NVBDCP in airport premises and in the defined perimeter.

Rapid Response Teams

- Rapid Response Teams (RRTs) shall be activated at Central and State

- surveillance units. Each team would comprise an epidemiologist/ public health specialist, microbiologist and a medical/ paediatric specialist and other experts (entomologist etc) to travel at short notice to investigate suspected outbreak.
- The National Centre for Disease Control (NCDC), Delhi would be the nodal agency for investigation of outbreak in any part of the country.

Laboratory Diagnosis

- NCDC, Delhi and National Institute of Virology (NIV), Pune have the capacity to provide laboratory diagnosis of Zika virus disease in acute febrile stage. These two institutions would be the apex laboratories to support the outbreak investigation and for confirmation of laboratory

diagnosis. Ten additional laboratories would be strengthened by ICMR to expand the scope of laboratory diagnosis.

- RT- PCR test would remain the standard test. As of now, there is no commercially available test for Zika virus disease. Serological tests are not recommended.

Risk Communication

- The states/ UT Administrations would create increased awareness among clinicians including obstetricians, paediatricians and neurologists about Zika virus disease and its possible link with adverse pregnancy outcome (foetal loss, microcephaly etc). There should be enhanced vigilance to take note of travel history to the affected countries in the preceding



two weeks.

- The public needs to be reassured that there is no cause for undue concern. The Central/state Government shall take all necessary steps to address the challenge of this infection working closely with technical institutions, professionals and global health partners.

Vector Control

- There would be enhanced integrated vector management. The measures undertaken for control of dengue/dengue hemorrhagic fever will be further augmented. The guidelines for the integrated vector control will stress on vector surveillance (both for adult and larvae), vector management through environmental modification/manipulation; personal protection, biological and chemical control at household, community and institutional levels.
- States where dengue transmission is going on currently due to conducive weather conditions (Kerala, Tamil Nadu etc) should ensure extra vigil.

Travel Advisory

- Non-essential travel to the affected countries to be deferred/ cancelled.
- Pregnant women or women who

are trying to become pregnant should defer/cancel their travel to the affected areas.

- All travelers to the affected countries/areas should strictly follow individual protective measures, especially during day time, to prevent mosquito bites (use of mosquito repellent cream, electronic mosquito repellents, use of bed nets, and dress that appropriately covers most of the body parts).
- Persons with co-morbid conditions (diabetes, hypertension, chronic respiratory illness, immune disorders etc) should seek advice from the nearest health facility, prior to travel to an affected country.
- Travelers having febrile illness within two weeks of return from an affected country should report to the nearest health facility.
- Pregnant women who have travelled to areas with Zika virus transmission should mention about their travel during ante-natal visits in order to be assessed and monitored appropriately.

Non-Governmental Organizations

- Ministry of Health & FW/State Health Departments would work closely with Non-Governmental

organizations such as Indian/State Medical Associations, Professional bodies etc to sensitize clinicians both in Government and private sector about Zika virus disease.


Co-ordination with International Agencies

- National Centre for Disease Control, Delhi, the Focal Point for International Health Regulations (IHR), would seek/ share information with the IHR focal points of the affected countries and be in constant touch with WHO for updates on the evolving epidemic.

Research

- Indian Council of Medical Research would identify the research priorities and take appropriate action.

Monitoring

- The situation would be monitored by the Joint Monitoring group under Director General of Health Services on regular basis. The guidelines will be updated from time to time as the emerging situation demands. 

(The authors are Senior Paediatrician, Apollo hospital and HOD, Community Medicine, Maulana Azad Medical Collage, New Delhi)



CHIKUNGUNYA

Disabling Disease

All possible strategies need to be implemented to optimize the use of resources for prevention and control of Chikungunya

BY DR. SUNEELAGARG / DR. NEHA DAHIYA



Chikungunya was first reported in 1952, during an outbreak in southern Tanzania. The word Chikungunya originally came from the Kimakonde language, which is spoken by the

indigenous people of southern Tanzania, which means “contorted”.

It refers to the contorted position taken by people when they are affected by joint pain. It is transferred from human to human by mosquitoes. *Aedes Aegyptii* and



Aedes albopictus are the two main species of mosquito that spread the disease. These mosquitoes bite during the day and get infected when they take blood meal or feed on a person already infected with the virus. Infected mosquitoes are now able to spread the virus to other people through bites.

After the bite of an infected mosquito, symptoms usually start between 2 to 12 days. The common symptoms are fever, joint pain, joint swelling, headache, muscle pain, and rash. Chikungunya does not often result in death, but the symptoms can be disabling. Most patients feel better within a week but, the joint pain may persist for months. Newborns, older adults (≥ 65 years), and people with medical conditions such as high blood pressure, diabetes, or heart disease are at higher risk for complications and severe diseases.

According to a Delhi municipal report released on September 19, 2016, a total of 2625 Chikungunya cases and 3251 clinically suspected cases were recorded in the national capital till 18 September 2016, marking a massive rise of nearly 150% from the previous count.

Most of the symptoms of dengue and Chikungunya are same but, hemorrhagic manifestations are rare in Chikungunya and shock is also not observed. Usually patients recover fully, but in some cases joint pain may continue for several months, or even years. Most patients don't face any complications, but in older people, it can act as a contributing factor to the cause of death.

Diagnosis

Various methods can be used for diagnosis. Samples collected during the first week after the onset of symptoms should be tested by both serological and virological methods (RT-PCR) such as enzyme-linked immunosorbent assays (ELISA), which can confirm the presence of IgM and IgG anti-Chikungunya antibodies. IgM antibody levels are highest 3 to 5



weeks after the onset of symptoms.

Treatment

There is no specific antiviral drug treatment for Chikungunya. Primary aim of treatment is to relieve the symptoms, including the joint pain using anti-pyretic, analgesics and fluids. Currently, there is no vaccine available for the disease.

Strategies for prevention and control of Chikungunya

Integrated vector control: Integrated Vector Management (IVM) is defined as “a rational decision-making process to optimize the use of resources for vector control” (WHO). IVM is based on the promotion and use of a many interventions alone or in combination which is selected on the basis of diseases, local knowledge of the vectors, and the other factors that affect transmission. The IVM approach addresses several diseases simultaneously, because some vectors such as aedes can transmit more than one disease and some interventions

are effective against several vectors. This includes the use of insecticides treated bed nets, and long lasting insecticidal nets.

Environmental Control: The major environmental management methods used for control of *Aedes* mosquito are:

Environmental Modification: Permanent physical change of vector habitats. For example, improved water supply, mosquito proofing of overhead tanks, cisterns.

Environmental manipulation: Temporary changes to habitats of vector which include management of or removal of “natural” and artificial breeding sites. Changes in human environment to reduce man mosquito contact by proofing of houses with screens on doors/windows.

Biological Control: Larvivorous fishes can be used for control of *Ae. Aegypti* in large water bodies and endotoxin-producing bacteria, *Bacillus thuringiensis* serotype H-14 (Bt H-14) is also an effective mosquito control agent.

DISEASE PREVENTION & CONTROL

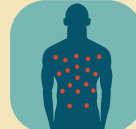
SYMPTOMS



HEADACHE



FEVER



SKIN RASH



MUSCLE/JOINTS PAIN



FATIGUE



RED EYES



CHIKUNGUNYA FACTS

- **Fever, joint pain, joint swelling, headache, muscle pain, and rash.**
- **Mosquitoes bite during the day and get infected when they take blood meal or feed on a person already infected**
- **Chikungunya does not often result in death, but the symptoms can be disabling**
- **Common means of protection against mosquitoes in wearing full sleeves clothes and using repellents**

Chemical Control: Chemical control measures like larvicides, adulticides can be used. Since *Aedes* breeds in clean water, which is stored and used for household purposes, most commonly used larvicide is temephos, an insecticide being used under the National vector borne disease control program. The recommended dose for application of Temephos (50 EC) is 1 ppm (1 mg per liter of water). Pyrethrum spray and Malathion fogging are most common methods which are used as adulticide.

Legislative Measures: Suitable laws and byelaws should be implemented for regulating storage/ utilization of water by communities. Various legislative measures include model civic byelaws, building construction regulation act, environmental health act, health impact assessments etc.

Community Mobilization: Can be done through health education. Involvement of household for *Aedes* mosquito control is of top importance as the problem revolves mainly around measures, intensifying efforts to reduce actual or potential larval habitats in and around houses by various methods like covering all water containers in the house to prevent fresh egg laying by the mosquito. Drying and emptying water containers like coolers, bird baths, pets' water bowls, plant pots, at least once each week. Regular checking requires for clogged gutters and flat roofs that may have poor drainage. Introducing larvivorous fishes e.g., gambusia in ornamental water tanks.

At Individual level- Personal protection like wearing full sleeves clothes and using repellents are common means of protection against


mosquitoes and other biting insects. Various household insecticides like, mosquito coils, pyrethrum space spray and aerosols have been widely used for personal protection against mosquitoes.

At Community Level- People should form groups or associations such as RWAs to supplement and reinforce efforts at household level. These groups can launch awareness campaigns on disease and seek collaboration for prevention of mosquito breeding and protection from mosquito bites. Community activities against larvae and adult mosquitoes can include cleaning and covering water storage containers.

Other measures include keeping the surroundings clean and improving basic sanitation measures, burning mosquito coils to kill or repel the mosquitoes and eliminating outdoor breeding sites, screening houses, cleaning weeds and tall grass to reduce available outdoor resting places for adult mosquitoes, promoting use of insecticide treated nets and curtains to kill mosquitoes attempting to bite through the nets or resting on nets and curtains, organizing camps for insecticide treatment of community owned mosquito nets/curtains. In case water containers cannot be emptied, Temephos (1 ppm) should be applied on a weekly basis in coordination with the health authorities, mobilizing households to cooperate during spraying / fogging.

At Institutional Level: weekly dengue surveillance should be done.

Surveillance Intensification of epidemiological and entomological surveillance should be done and reporting of fever cases should be closely monitored.

Intersectoral convergence is a very crucial activity for prevention of Chikungunya and it requires cooperation of various departments to avoid breeding of mosquitoes. 

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



Ta-ta Tobacco

Collective efforts are needed on the part of people and governments to discourage the consumption of tobacco

BY ABHIGYAN

“It killed our ancestors; it’s killing us and will kill our generations.”

Tobacco, the most commonly sold drug, comes cheap but costs heavily on life. In India, approximately 10 lakh people die each year due to the consumption of tobacco.

Anti-Tobacco Day is celebrated to spread awareness about the harmful effects of tobacco consumptions in any form. Campaigns, health camps, public awareness sessions, rallies are organized by governmental and non-governmental organizations to provide information on adverse effects of on smoking tobacco of any kind on men and women (to avoid premature deaths). This day influences people to approach life with positivity, to imbibe good habits and quit smoking.

Says Dr Chandan Kedawat, Sr Consultant in Internal Medicine at Pushapawati Singhania Research Institute (PSRI), “The growing inclinations in youth for smoking tobacco have put the future of country in peril; a large number of people suffering from lung and mouth cancer falls under the range of 25 to 45 years of age. The trendy looking forms of tobacco are bidis – flavoured and non-flavoured, cigarettes, cigars, electronic cigarettes, hookah, kreteks (clove cigarettes) and even dissolvable tobaccos.”

Cigars, symbol of expensive lifestyle can be even more dangerous. Cigar smoking is linked to cancers of the mouth, lips, tongue, throat, larynx, lung, pancreas and bladder cancer.



In recent study, a new fashionable trend of smoking hookah has been seen. Smoking hookah exposes the user to 100 to 200 times the volume of smoke inhaled from a single cigarette. Moreover due to sharing of mouthpiece, many infections also get transmitted amongst users. Smokeless tobacco is also not safer. It consists of 28 cancer-causing agents (carcinogens). It increases the risk of oral cavity cancer, which associates with leukoplakia and recession of the gums.

Tobacco is a very addicting product, close to heroine addiction but it is never impossible to quit smoking. Quitting tobacco completely can save a person from cancers of the bladder, oral cavity, pharynx, larynx (voice box), esophagus, cervix, kidney, lung, pancreas, and stomach, and acute myeloid leukemia. Also, it can reduce the chances of heart disease and stroke.

It can be very difficult to quit smoking or chewing of tobacco but by implementing some simple changes in your daily routine, you can reduce its craving.

1. Water – Water can help your body to detoxify the nicotine present in blood due to prolonged regular consumption of nicotine.
2. Ginger – The common side effect of quitting tobacco is feeling of nausea. Ginger helps to combat



that nausea and can be consumed in form of ginger tablets, capsules or in tea.


3. Vitamins – Multivitamins especially containing Vitamin A, C and E are proven to be excellent for repairing body by adding essential nutrients to expel the toxins. This will also give relief from withdrawal symptoms by providing extra energy, strength to body.
4. Ginseng – Add spoonful of Ginseng powder in your juices, cereal, oatmeal or soup to avoid the craving.
5. Grape Juice – Daily Grape juice helps you to fight toxins as it has natural detoxifiers and rejuvenates your system and keeps your energy levels high.

Build a quit plan by throwing ashtrays and any smoking related items in house, office and car. Adopt stress management plan, nicotine replacement therapy, behavioural therapy and medicines and if needed

combo treatment. Please do not hesitate in taking advice from a psychologist or a doctor, if necessary.

As per the Global Adult Tobacco Survey (GATS) Factsheet, it is seen that tobacco consumption will be killing over 1.5 million people every year by 2020 including male, female and premature deaths, if not taken seriously.

According to report by International Tobacco Control Project (ITCP) India with the population of 1.2 billion has currently reported 275 million tobacco users. ITCP has also conducted survey face to face by interviewing 8,000 tobacco users and 2400 non-users across 4 Indian states – Bihar, Maharashtra, Madhya Pradesh and West Bengal. As per GATS, 26 percent of adults in India consume smokeless tobacco - 33 percent of men and 18.4 percent of women.

It is possible to secure the future and make the country tobacco free, if each one of us makes efforts to this effect. 



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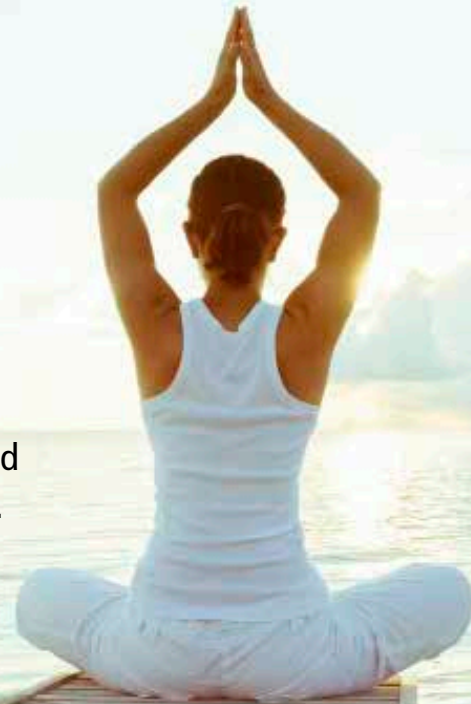


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Founded in 2015, VedicGram provides authentic and practical Ayurvedic treatments in a holistic manner. The institution provides herbal and natural health care system after analysing and understanding the root cause of a particular disease.

BY TEAM DOUBLE HELICAL



When was the last time you thought of getting a break from your hectic lifestyle, probably the answer will be, “everyday”. In the era of fierce competition and continuous progression, we all go through this phase.

Nevertheless the pressure of performance keeps us under its tight grip and we can only wish for a break. In such a situation, what if we can get a silver lining from all this frenetic schedule and workload to banish all the stress from our life. Well, these words may sound surreal, yet they are not far from reality.

In the age of modern science and technology, Ayurveda emerges as an

ancient branch of medicine which answers all the aforementioned problems. As an age-old discipline, Ayurveda originated in India. It is a discipline which has got effective treatments and remedies for easing out many health issues. Under its umbrella lies a vast array of methods to cure various maladies. But, chalking out the remedies of Ayurveda is not quite an easy task.

Surfing online can provide thousands of suggestions, but you might end up being boggled by them. Definitely, there is an easier option: VedicGram, established as Noida’s first Ayurvedic treatment centre located in Sector-63.

VedicGram aspires to bring back the age-old remedies of both physical and mental illness through natural herbs

and medicines. The best part is, one can easily avail its assorted treatments by either visiting the centre or arrange a pick-up by the team. The centre excels in providing treatments for various illnesses and health related issues and the patients are diagnosed by Vedic doctors or Acharyas.

With your first step inside the centre, you could get the feel of VedicGram’s fundamental idea. The centre is constructed using the basic elements of life. Gazing up the ceiling, you’ll find Bamboo structure while a glimpse at the earthy mud walls will kindle up a rustic feeling in you. The centre has got various departments include Vedic Cardiology, Vedic Gastroenterology, Vedic Orthopedics, Vedic Neurology, Vedic Urology, Vedic Oncology, Vedic



endocrinology, Vedic Nephrology, Vedic Sexology, Vedic Psychiatry, Vedic Dermatology etc, to provide specialized treatments to the patients in each category. Here other services include Vastu Shashtra consultation, diagnosis by different medical equipment, Vedic prescriptions, Panchakarma, diet plans, yoga and channelizing energy through Vedic procedure.

Now these terms may sound confusing, but the centre provides effective services to resolve all health issues. For instance, 'Shirodhara', which is a method of Ayurvedic treatment. Under this, warm oil or a certain medicinal liquid is poured on a patient's forehead. This method helps people in distressing themselves and getting rid of problems like sleep

Ayurveda is a discipline that everyone has heard of, but people lack proper insights to the world of its treatments and utilities. Headache, blood pressure, blood sugar, Sciatica, Spondylitis, joint pain, bodyache and many other severe issues

disorder, constant headache, anxiety etc. The centre prescribes medicines and tonics purely manufactured by its own mother company, Vedicose .It is a brand of Stratton Healthcare & deals with production, manufacturing and trading of Ayurvedic medicines, Ayurvedic FMCG products, Ayurvedic extracts and Ayurvedic health supplements.

Ayurveda is a discipline that everyone has heard of, but people lack proper insights to the world of its treatments and utilities. Headache, blood pressure, blood sugar, Sciatica, Spondylitis, joint pain, bodyache and many other severe issues are generally perceived through mainstream Allopathic discipline. Still, we come across many dissatisfied patients in such cases.


With its effective and efficient remedies, Ayurveda has provided excellent results to millions of people all over the world. By establishing its prowess as an all-encompassing holistic system of medicine, thorough clinical research and intensive laboratory results, Ayurveda has shown that natural herbs, mineral and wellness massages can tackle a wide variety of ailments like obesity, diabetes, arthritis, asthma, hypertension, psoriasis, acidity, sleep problems, sexual disorders, among many others.

Speaking on the importance of Ayurveda, Dr. Piyush Juneja, CEO of

VedicGram, said, "Ayurveda advocates preventive healthcare method of treatment. It is not a system of medicine but a science of life and longevity. Nowadays many people are exploring other avenues to get an alternative to mainstream Allopathic treatment, and Ayurveda is that one option that heals diseases and frailties with no side effects and better results. With the help of Ayurveda, we can balance mind and body for a better and healthy life. Ayurveda is a comprehensive way of treatment and with our range of treatments, we aspire to spread this to the masses."

With its centre in Noida, VedicGram recently announced for 100 more new clinics and 10 treatment centre across Delhi/NCR soon. It offers lots of solutions in medical sector that discerning people were clamouring for. The services can be utilized by anyone be it a young office going professional, mid-age adult or an elderly person.

"We understand that a human being is a complex combination of elements, which has to be harmonized through curative medicine, positivity, and overall wellness. Armed with the in-depth knowledge of this ancient system of healing, VedicGram upholds the comprehensive principles of Ayurveda in order to ensure an overall state of physical, psychological, spiritual and social well-being", Dr Juneja added.

VedicGram has been continually working towards spreading the goodness and real-life application of Ayurveda at the global level. It has been establishing an international community of practitioners, Acharyas, therapists, doctors, educators and Ayurvedic philosophy upholders. VedicGram seeks constant feedback, partnership, and investment to amplify their mission to make Ayurveda a healthy part of everybody's lifestyle. VedicGram's ideology can be comprehended clearly by its motto - A disease well diagnosed is a disease well treated! This one-of-its-kind institution has introduced Ayurveda in the lives of many for a healthier living. 



Say Goodbye to Stress

Ayurveda integrates Yoga, meditation and Pranayama to manage stress. It has several kinds of treatment that alleviate tension

BY AYURVEDACHARYA DR PARTAP CHAUHAN

Stress is a complex concept that has both mental and physiological components. Though most forms of stress are psychological, they trigger a variety of physiological changes. These changes include the ones in the immune function, indicating a link between the stress and immune system.

Stress-related cases have grown phenomenally over the last couple of decades. Psychiatrists believe that the growth has been about a thousand times in the last ten years. Medically, stress is defined as a perturbation of the body's internal equilibrium. The common indices of stress include changes in

- biochemical parameters such as epinephrine and adrenal steroids,
- physiological parameters such as heart rate and blood pressure and
- behavioural effects such as

anxiety, fear and tension

Stress can lead to palpitation, heart attack, migraine and tension headache, eating disorder, ulcer, irritable bowel syndrome, colitis, diabetes, backache, chronic fatigue syndrome, dermatitis, allergy, cold and cough, asthma, insomnia, stammering, phobia, depression, premature aging... the list is endless.

SYMPTOMS OF STRESS

Typical symptoms of stress can be insomnia, loss of mental concentration, anxiety, absenteeism from work, depression, substance abuse, extreme anger and frustration, family conflict, and physical illnesses, such as heart disease, migraine, headaches, stomach problems, and back problems.

CAUSES OF STRESS - THE AYURVEDIC PERSPECTIVE

Today, stress and fatigue are like

household commodities. Practically everyone has to face stress to some degree. Everyone needs to cope with the spectre of a scarily frenetic lifestyle, which includes punishing work schedules, incessant travel, collapsing relationships, breakneck competition, a battle against age and illness, and the desire to remain ever-youthful and glamorous.

According to Ayurveda, there are three sub-doshas that govern the mind. Prana vata is the sub-dosha of vata that governs the brain, sensory perception and the mind. Tarpaka kapha is the sub-dosha of kapha that governs the cerebro-spinal fluid. And because acquisition, retention and recall originate in the heart, sadhaka pitta (the sub-dosha of pitta that governs the emotions and their effect on the heart) is also involved.

There are three states or operational qualities of mind. These are sattva,



rajas and tamas. Sattva (goodness) is the healthy state of mind. Rajas (passion) and tamas (ignorance) are the unhealthy states of mind. When the mind is dominated by rajas and/or tamas, the sub-doshas go out of balance. Sadhaka pitta begins to create a burning effect and prana vata creates a drying effect. Then tarpaka kapha generates extra cerebro-spinal fluid to counteract this effect and protect the brain.

But when our mental capacities are repeatedly overused (due to excess of tamas and rajas), the lubricating value of tarpaka kapha becomes excessive, and begins to diminish the metabolizing or digestive fire or agni. This is similar to the effect of too much moisture in the digestion - it can put out the digestive fire or agni. When this happens, ama (toxins) start to be created. Ama accumulates in the gaps and channels of the brain, and mixes with the fluids created by tarpaka kapha, creating a harmful type of cortisol, the indicator of stress. Cortisol in itself is not harmful; in fact, it is created by the body to protect the brain. But when tarpaka kapha becomes excessive and there is ama in the physiology, it does more harm than good. That's when anxiety attacks and other signs of stress take over.

TREATMENT

There are several kinds of Ayurvedic treatment that alleviate stress.

HERBAL TREATMENT

Herbs known as adaptogens are beneficial in alleviating stress. These herbs that promote adaptability



to stress, include Siberian ginseng (*Eleutherococcus senticosus*), ginseng (*Panax ginseng*), wild yam (*Dioscorea villosa*), borage (*Borago officinalis*), licorice (*yashtimadhu* (*Glycyrrhiza glabra*), chamomile (*Chamaemelum nobile*), milk thistle (*Silybum marianum*), and nettle (*Urtica dioica*). Traditionally, Ayurveda recommends the root of winter cherry or ashwagandha, shakpushadi, brahmi (*gotu kola*), jatamansi (*muskweed*), shakpushpi, dhatri rasayan, praval pishti and the fruit of emblic myrobalan, among other herbs, to reduce stress and fix the imbalance in the vata dosha.

Research shows that certain Ayurvedic formulas made from herbs such as brahmi (*gotu kola*), shankapushpi (*aloeweed*), and guduchi (*heart-leaved moonseed*) reduces generalized anxiety, calms stress, while heightening alertness and preventing mental stress from mounting.

These special Ayurvedic herbs are called medhya herbs in traditional Ayurvedic texts, and are known to not only individually nurture certain areas of the brain (mind) sensitive to stress effects, but also to nurture coordination among them.

Ashwagandha or winter cherry enhances the mind's overall ability to



fight stress, because it helps overall mental functioning. Jatamansi (*muskroot*) and greater galangal are additional herbs that clear the channels. These keep our mind and body free of toxins and blockages. Ashwagandha is a sharp, naturally cleansing herb, but in combination with Jatamansi (*muskroot*) and Greater Galangal, it becomes an extremely effective agent for clearing the channels, enhancing agni or digestive fire and reducing ama (*toxins*).

DIET TREATMENT

Since stress reduces the body's immunity, nutritious diet is very beneficial in counteracting this depletion. Following the right diet for dealing with stress is also very important. In Ayurvedic terms reduce 'rajasic' and 'tamasic' foods and add 'sattvic' diet.


Avoid coffee and all other caffeinated

beverages, because in high doses caffeinated substances produce jitteriness, restlessness, anxiety, and insomnia. As far as possible, try to avoid carbonated and alcoholic drinks as well. High-protein animal foods should also be minimized as these increase levels of dopamine and norepinephrine in the brain, which are associated with higher levels of anxiety and stress. Eat lots of fresh green vegetables, fruits and fruit juices. Avoid white flour and sugar products, and all frozen, preserved and leftover food. Include whole grain cereals - they promote the production of the brain neurotransmitter serotonin, which induces a greater sense of well-being.

PANCHA KARMA

Ayurveda advises undergoing pancha karma for maintaining a strong and healthy metabolic rate and also to keep harmful toxins from accumulating in the body and mind. The pancha karma process involves identifying the root cause of a stress problem and correcting the essential balance of mind, body, and emotions. It is considered extremely effective to go through the process of pancha karma before any rejuvenation treatment (*rasayana*/herbal medicines). This helps to cleanse the body, improve digestion, strengthen the metabolic rate and also cleanse one's thought process.

YOGA, MEDITATION AND PRANAYAMA

In addition to the above-mentioned treatments, Ayurveda integrates Yoga, meditation and Pranayama (breathing exercises) to manage stress. Certain gestures called "mudra" are also helpful. Positive thinking, tidiness, clean environment and maintaining harmony at all levels is important for getting rid of stress permanently. 

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



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Param Dairy Limited, a leading manufacturer, exporter, supplier, and trader of milk and milk products under the brand name 'Param Premium', has been serving India by offering the best quality products that guarantee freshness, purity and long shelf life at the most reasonable prices

BY RAJIV GUPTA



Param Dairy Limited is one of the leading manufacturers of milk and milk products. The company manufactures a wide range of milk products such as full cream milk powder, milk fat, pure ghee, skimmed milk powder, dairy whitener, paneer and liquid milk. The products are marketed under the brand name 'Param Premium'. Param dairy has become one of the prominent brand names in the Indian dairy industry where it is operating for the past 55 years.

Milk products are becoming widely popular. However, for the people who do not have much liking for milk, we are producing quality flavoured milk, which has now become a rage amongst all types of people.

Milk is the primary source of nutrition for infant mammals

(including humans who breastfeed) before they are able to digest other types of food. Early-lactation milk contains colostrum, which carries the mother's antibodies to its young and can reduce the risk of many diseases. It contains many other nutrients including protein and lactose. As an agricultural product, milk is extracted from non-human mammals during or soon after pregnancy.

India is the world's largest producer of milk, and is the leading exporter of skimmed milk powder, yet it exports few other milk products. The ever increasing rise in domestic demand for dairy products and a large demand-supply gap could lead to India being a net importer of dairy products in the future.

The primary aim of Param Dairy Limited is to optimize the services provided to the company's clients and suppliers of materials through its activities in production, marketing and distribution. Presently, the production capacity of Param Dairy Limited is estimated to be 0.9 million liters of liquid milk each day. The annual turnover of the company has been reported as USD 220 million approximately. Around 31% to 40% of the products manufactured by the company are exported to different countries.

The main international markets of the Param dairy are North America, South America, Eastern Europe, Southeast Asia, Africa, Oceania, Mid East, Eastern Asia and Western Europe.

Pasteurized milk is milk that is boiled to a temperature of around 75 degrees and then cooled. This process increases the shelf life of milk and has a validity term of 5-15 days if refrigerated accordingly during transport and distribution. This is the milk sold in poly packs.

We are counted among the leading manufacturer, exporter, supplier, trader of highly quality milk and milk products. Supplied under the brand name 'Param Premium', our range of products is vast and includes premium quality products such as skimmed milk powder, full cream milk powder, paneer, pure ghee, dairy whitener, liquid milk and milk fat. We

have garnered an excellent reputation in the market by offering the best quality of products at the most reasonable prices.

Our modern infrastructure facility helps us manufacture excellent products that match up to the high standards that the clients have set for us. Our prominence in the areas of production, trade and distribution has helped us optimize our services and ensure their exceptional quality. Several million litres of milk are processed in the most hygienic manner every single day at our infrastructure facility.

Since the year 1948, our esteemed customers have been waking up and beginning their morning with the purity and freshness of our milk products. We have become an integral part of the lives of our consumers by offering them wholesome milk and delicious milk products since our inception. Our experienced management team has kept pace with the ever-increasing demand for milk and milk products both in terms of quality and quantity. We aspire to serve the nation through the provision of best quality milk products.

We exercise extreme caution to ensure that the quality of our products is maintained. For this, we have hired a team of experienced and professional quality auditors who check the quality of our products at each step in order to ensure flawlessness, purity and freshness. Our products are easily accessible at grocery stores, milk booths as well as in supermarkets. Our workforce is mainly involved in the manufacture and marketing of dairy products.

We have spread our roots not just nationally, but in the international market as well. We occupy a major share of the dairy industry. Our commitment to serve clients in the best manner possible has helped us garner a loyal and efficient client base.


We are involved in the provision of high-quality milk and milk products. These are manufactured in compliance with industrial quality standards using fresh and pure ingredients. Our products guarantee freshness, purity and long shelf life.

The Ultra Pasteurization or UHT procedure (Ultra High Temperature) is a continuous process which takes place in a closed system, preventing the product from being recontaminated with germs from the air. The product goes through a rapid succession of heating and cooling stages. The aseptic filling is part of the process which prevents recontamination. The final result is a product which can be kept for about six months without refrigeration until opened. This is the milk which is sold in tetra packs and has a shelf life of 6 months.

So, regardless of the manner in which the milk is collected, it is made germ free through processing. And yes, it is 100% milk. Adulteration in milk these days has become very common. There are many ways in which milk is adulterated. Most common and by far less harmful is adding water in the milk. Apart from impurities added from water, there are few dangers in consuming such milk.

To identify, adulteration from water, a simple test is milk slip test, viz, running the drop of milk on smooth or polished surface. Pure milk leaves some residue or traces behind. However, milk mixed with water addition, will simply flow out. However, these days, adulteration is done in more ways than such a simple water adulteration.

Param Dairy Limited believes that children are the future of any country. So, the company distributes free milk to children so that they stay healthy. Recently, it distributed flavoured milk to 350 underprivileged students of Hope Foundation School in Sangam Vihar, New Delhi. We also participated in Gulf Food 2016 held in Dubai where we won a prize for our high quality of dairy products.

We don't compromise with quality and purity and so our products are specialized in terms of wholesomeness. From our plant is in Bulandshah and head office is in Karol Bagh, we produce 10 lakh litres of milk every day. We have latest technology machines, manned by experts, in our plant. 

(The author is CMD, Param Dairy Ltd, New Delhi)



MoUs signed for infrastructure expansion in AIIMS

All India Institute of Medical Sciences (AIIMS), New Delhi recently signed MoUs (Memorandum of Understanding) with NBCC (India) Ltd, HSCC (India) Ltd and with HITES HLL Life Care Ltd to expand its infrastructure and other facilities.

The signing ceremony was presided over by J P Nadda,

Union Minister for Health and Family Welfare, and Venkaiah Naidu, Union Minister for Urban Development, Urban Poverty Alleviation, and Information & Broadcasting. AIIMS signed an MoU worth Rs 4441 crore with NBCC (India) Ltd; Rs 2500 crore with HSCC (India) Ltd and Rs 729 crore with HITES HLL Life Care Ltd – a cumulative net worth of Rs 7670. Appropriately, J P Nadda described this as the largest ever health sector



investment commitment made by Government in a public health project at one event.

“The past two years have witnessed historic growth in the form of infrastructure and other facilities,” Nadda said. The Health Minister assured that the Government is committed to ensuring that the new AIIMS will meet the same standards of service as AIIMS, New Delhi.

Nadda stated that AIIMS has created a benchmark in the field of healthcare not only at the national level but internationally also, which should be replicated in the new AIIMS. He noted that the new institutes will be “AIIMS” and not “AIIMS-like”.

Speaking at the ceremony, Venkaiah


Naidu, said, “The profession of doctors is very noble and AIIMS has contributed significantly in providing quality healthcare. The expansion plans of the Government would not only improve medical education but will also provide greater access to world class facilities to the citizens,” Naidu added. He further said that we should have such premier institute in every state of the country and India is well on its way to becoming a medical hub in the world.

The agreement with NBCC for redevelopment envisages construction of 3060 residential apartments at Ayur Vigyan Nagar campus and 868 apartments at West Ansari Nagar Campus. The augmentation of 3928

units would take the total available residential units of AIIMS to 4505.

The agreement with HLL Infra Tech Services Limited (HITES) is for procurement of all types of medical equipment and services including medical gas distribution system, CSSD, modular operation theatres for National Cancer Institute, AIIMS, Jhajjar, Haryana. Similarly, HSCC has been selected as a project management consultant for the design, tendering, supervision of engineering components and for equipment procurement and allied infrastructure works for the proposed National Cardiovascular Institute (NCVI) at the AIIMS second campus at Jhajjar.

Venkaiah Naidu and J P Nadda also gave away the AIIMS Leadership Excellence awards at the function.

Also present at the function were Prof M.C. Misra, Director AIIMS; Prof Balram Airon, Dean (Academic) & Chief of the CTVS Centre; Prof G. K. Rath, Head, National Cancer Institute; V. Srinivas, Deputy Director (Administration), AIIMS; A. K. Mittal, CMD, NBCC; Gyanesh Pandey, Chairman, HSCC; S. N. Sathu, CEO, HITES along with senior officers of the Ministry of Health and Family Welfare and the faculty and students of AIIMS 

Max Hospital, Vaishali launches a campaign for prevention and early detection of cancer in women

Leading healthcare service provider of the region, Max Super Speciality Hospital, Vaishali recently launched a campaign called Udaan (flight) - 'Cancer in women – Prevention and early detection.' The campaign is aimed at spreading awareness about the increasing incidence of cancer in women and to salute the fighting spirit of cancer survivors.

The campaign was launched at a workshop held at Max Super Speciality Hospital, Vaishali. The hospital also launched a cancer screening program which includes free consultation by cancer expert, 50% discount on mammography, 25% on pap smear along with 20% discount on HPV vaccination.

An awareness session by cancer experts was held at the event which was well attended by women from different sectors of the society. To spread the message of Udaan - Cancer in Women, Doris Francis, well-known traffic activist and cancer survivor, also shared her experience of battling cancer.

The inauguration was done by Dr Harit Chaturvedi, Chairman - Cancer Care, Director & Chief Consultant- Surgical Oncology; Dr. Gaurav Aggarwal, Unit Head, Max Hospital, Vaishali; Dr. Arun Kumar Goel, Director (DMG) - Surgical Oncology; Dr. Dinesh Singh, Director (DMG)- Radiation Oncology; Dr. Kanika Gupta, Sr. Consultant-Gyne Oncology; Dr. Sandeep Agarwal, Sr. Consultant-Radiation Oncology; Dr. Ruby Bansal, Head, PHP; Dr Swasti, Consultant, Oncology along with Mrs Dauris Francis – Cancer Survivor (who is undergoing her treatment at Max Hospital, Vaishali).

Dr. Gaurav Aggarwal, Unit Head, Max Hospital, Vaishali, said "At Max Super Speciality Hospital, Vaishali, we salute the spirit of women who have fought against or are still fighting cancer. The aim of launching this campaign (Udaan) was to create awareness on the importance of early detection.



There is a huge challenge that needs to be addressed as most of the cancers in India are diagnosed when the tumours are big or have spread in the body. It is critical to regularly screen oneself for cancer to ensure early detection and treatment before the tumour becomes either untreatable or difficult to treat."

Dr. Arun Goel, Sr. Consultant & Head-Surgical Oncology said 'Cancer in Women – Prevention and early detection' campaign has framed a screening programme for women in order to detect cancer at an early stage and in some cases, even prevent cancers from developing in the first place."


One of the recent concerns plaguing the field of oncology is the increasing number of women who are being diagnosed with cancer. According to a study by the World Health Organization (WHO), one in 12 women in urban India is likely to develop cancer in her lifetime. Approximately 40% of new cases of cancer in India afflict women. In the past decade, breast cancer has overtaken cervical cancer as the most common cancer among women in Indian cities. Also, India has the highest rate of cervical cancer in the world. One in every 10 cancer deaths worldwide in urban India happens due to cervical cancer. What's

more alarming, 75-80% of patients are in advanced stages of the disease at the time of diagnosis. The cancers that often affect women are the following:

Breast Cancer: Across the world, breast cancer is the leading cancer amongst women. It accounts for about 14% of new cancer cases detected in India. Women between the ages of 40 and 60 years should be clinically screened, at least once every three years.

Cervical Cancer: Cervical cancer, caused by the human papillomavirus (HPV), is the second most common cancer among Indian women and accounts for roughly 12% of all new cancer cases diagnosed each year.

Oral Cancer: Globally, oral cancer is not very common, but in India, it accounts for about 7% of all new cancers diagnosed annually. Oral cancer includes cancers of the lip, mouth, palate, inner cheek, and most of the tongue.

Ovarian Cancer: Ovarian cancer is more likely to occur as women get older. Women who have never had children, who have unexplained infertility, or who had their first child after age 30 may be at increased risk for this cancer. Also, women who have used estrogen alone as hormone replacement therapy are at increased risk. 

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