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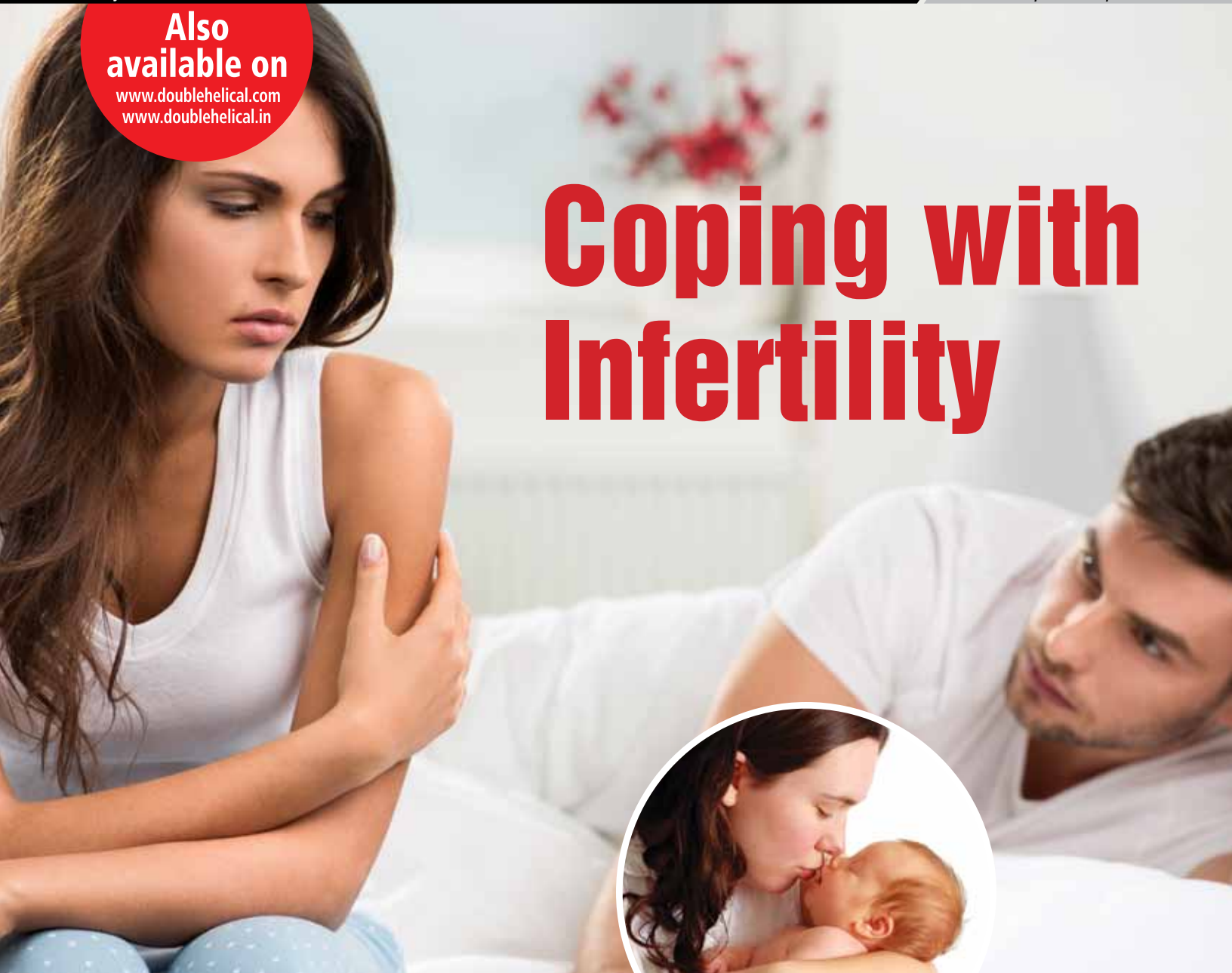
Double Helical

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Coping with Infertility



There is an alarming increase in the number of childless couples in India. but they need not to lose hope!

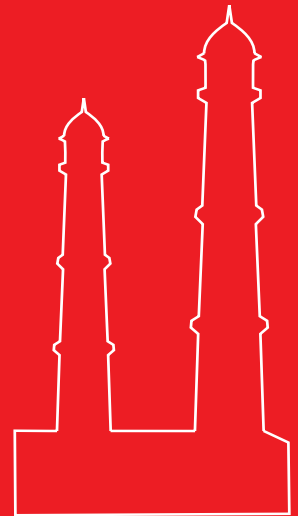
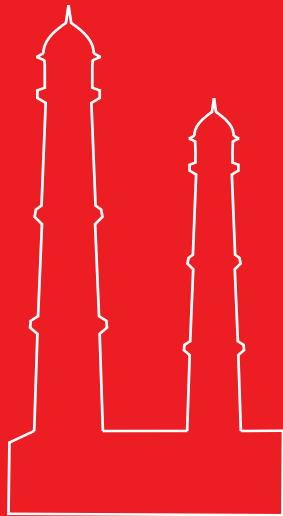
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Quality Healthcare for All

Dear Readers,
Thank you readers for your continuous support. With your kind blessings and encouragement, we are continuously improving the coverage of research and report-based authentic health articles.

Like every month, this time too we bring you special coverage on Coping with Infertility as a cover story. As you know, infertility is shattering the dreams of modern urban couples. According to a survey conducted in nine Indian cities, out of the 2,562 people who participated in it, nearly 46 percent were found infertile. Results from another parallel survey conducted among 100 infertility specialists showed that nearly 63 percent of the infertile couples belonged to the child-bearing age (31-40).

Approximately 40% of infertility in couples can be attributed to male sub fertility. Intra Cytoplasmic Sperm Injection (ICSI) has raised hopes of these couples. This method of treating predominantly male-factor infertility has been a breakthrough, and it has established itself as the preferred method of treatment in the field of assisted reproduction.

Today, the number of Indian couples turning to artificial methods to conceive has gone up considerably. Keeping infertility at bay is not impossible at all and all that is required is pursued tenacity, consistency and will in our day-to-day activities.

As a second lead story, Double Helical focuses on harmful effects of increasing pollution in Indian cities including Delhi-NCR. It has fatal impact even on unborn babies, posing a threat to future generations.

A link between low birth weight, pre-term births and intrauterine growth retardation (IUGR) has been established with air pollution. These issues influence subsequent health status of the child, including increased mortality and morbidity in childhood

With the increasing incidence of air pollution in metropolitan cities and its adverse effect on health of children, the policy-makers are facing an extraordinary challenge. Serious effects

of pollution include inflammation of the airway, alteration of the host defenses in the form of poor mucociliary clearance, macrophages function and immune response. These effects lead to cough, exacerbation of asthma, breathing difficulties, sinusitis, nasal allergies and, most importantly, increased risk of respiratory infection.

The blood-brain barrier is not fully developed in young children,

making them more susceptible to neuro toxicity. Higher incidence of hyperactive and aggressive behaviour in children has been attributed to increase in air pollution.

Autism spectrum disorders (ASDs) have increased dramatically during the last 10 years. In a recent publication from California, a potential association between autism and estimated metal concentration and possible solvents, in ambient air around these patients, has been reported.

The story "Cut Off from the World" reveals that hearing loss is the most common sensory deficit in humans today. As per WHO estimates in India, there are approximately 63 million people, who are suffering from significant auditory impairment; this places the ailment's estimated prevalence at 6.3% in Indian population. The Late Dr. S.N. Mehrotra Memorial ENT Foundation, Kanpur with Society of Sound of Hearing, has taken up the challenge of eradication of deafness with an aim of achieving hearing for all by 2030. The aim of their study is to know the prevalence and treat patients of hearing loss. It introduces the concept of ear care workers, who identify patients having hearing loss by organizing regular ear health camps in rural areas of Kanpur district. Those patients who could be benefited from surgery or hearing aids are treated accordingly at low cost.

One more interesting story Unknown and Mysterious Fatigue explains about Chronic Fatigue Syndrome (CFS). The CFS is a strange and mysterious malady that has no known cause or origin but continues to puzzle and ravage the humans like no other disease. If you feel tired for a long period of time and find that nothing can boost your energy levels, then you might just be suffering from CFS. The fatigue caused by CFS may worsen with physical or mental stress. The story takes a broad look at the way the diseases haunts our life.

We are delighted to inform you that national health magazine Double Helical is organizing National Health Awards 2016 on March 19th, 2016 at Hotel Ashoka, New Delhi, preceded by day-long Conclave to discuss the burning issue facing the healthcare system of the country. The awards will acknowledge the excellent contributions of the doctors, healthcare experts, hospital CMDs and CEOs to the advancement of the medical field in the service of the common man.

We seek your continued support to serve the cause of affordable best quality health care accessible to the masses.

Enjoy and cheers!

Thank you

Amresh K Tiwary
Editor-in-Chief





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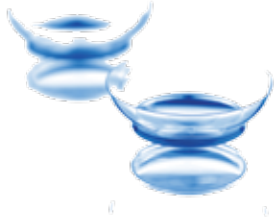
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LASIK is meant to help reduce people's dependency on glasses and contact lenses. But people, in general, lack adequate awareness about this effective vision correction surgery

BY DR GEETIKA KHURANA

Goodbye Lenses & Glasses!

LASIK stands for Laser-assisted in-situ keratomileusis, which means using a laser underneath a corneal flap (in situ) to reshape the cornea(keratomileusis). This procedure utilizes a highly specialized laser designed to treat refractive errors, improve vision and reduce or eliminate the need for glasses or contact lenses. This laser procedure alters the shape of the cornea, which is the transparent front covering

of the eye. All laser vision correction surgeries work by reshaping the cornea so that light traveling through it is properly focused onto the retina located in the back of the eye. LASIK is one of a number of different surgical techniques used to reshape the cornea.

HOW DOES LASIK WORK

During the LASIK procedure, a precise, thin hinged corneal

flap is created using a microkeratome or femtosecond laser. The surgeon then pulls back the flap to expose the underlying corneal tissue, and then the excimer laser ablates (reshapes) the cornea in a unique pre-specified pattern for each patient. The flap is then gently repositioned onto the underlying cornea without sutures. The reshaping of the cornea is such that light travelling through it is focused on the retina.

REFRACTIVE ERRORS FOR WHICH LASIK IS USED

- Myopia (nearsightedness): In people with myopia, distant objects appear to be blurry and near objects to be clearer.
- Hyperopia (farsightedness): In people with hyperopia, near objects appear to be blurry and distant objects to be relatively clearer.
- Astigmatism: In people with astigmatism, either the corneal or lens shape is distorted, causing multiple images on the retina. This causes objects at all distances to appear blurry.

CANDIDATES FOR LASIK SURGERY

- Age more than 18 years
- Stable refractive error for atleast a year
- Myopia upto -13D and astigmatism upto -6D
- Adequate corneal thickness
- No Corneal ectatic disorders
- No dry eye
- Motivated for LASIK surgery

RISKS AND COMPLICATIONS OF LASIK SURGERY

- Over/Under correction
- Regression of refractive correction
- Glare/Haloes
- Dry eye
- Post-surgical ectasia
- Infection

NON CONVENTIONAL REFRACTIVE SURGERIES

Wave front optimized LASIK

It takes into account corneal curvature and thickness, and applies laser energy in a unique fashion in the periphery of the cornea. This laser has been found to reduce the aforementioned complications such as glare, halos, and other nighttime visual aberrations that can occasionally occur with conventional treatments.

Wavefront-guided LASIK

Also referred to as custom LASIK, it is similar to conventional LASIK, except that in addition to treating a patient's basic refractive error, specific alterations in a patient's eye (high order aberrations) can also be treated. In wavefront-guided LASIK, special mapping is performed prior to surgery to identify any small irregularities in the patient's optical system. When these irregularities are severe, they can affect vision quality, contrast sensitivity, and night vision. When significant irregularities in a patient's wavefront mapping are found, wavefront-guided LASIK can be used, and the treatment will be based on the wavefront-map generated.

Laser Epithelial Keratomileusis

LASEK is similar to LASIK and PRK, but it starts with the application of alcohol to the corneal epithelium. This loosens the outermost corneal cells



Dr Geetika Khurana

and allows the surgeon to move them out of the way, without removing them, for the laser procedure. After reshaping the stroma with the excimer laser, the surgeon can put a contact lens to let it heal. LASEK can be a good option for patients with thin corneas.

Epi-LASIK (Epithelial Laser in Situ Keratomileusis)

Epi-LASIK starts the way LASIK does, except the flap is thinner and made only of epithelial tissue. Once the flap is created, it is moved aside, just enough that the surgeon can reshape



the stroma underneath with the excimer laser. The flap of epithelium is then replaced and covered with a contact-lens bandage to heal. Some consider Epi-LASIK a hybrid of LASIK and LASEK. Some surgeons believe Epi-LASIK is a good option because the flap exists only in the epithelium layer, and because there's no alcohol used during the procedure.

Phakic intraocular lenses:

For patients with extreme myopia, LASIK and advanced surface ablation are not reasonable options. In these cases, a phakic intraocular lens may be used. This lens is implanted inside the eye and can effectively treat nearsightedness up to -20 diopters.

**Conductive keratoplasty:**

Conductive keratoplasty (CK) is a technique that can be used for the temporary correction of hyperopia or presbyopia. CK involves using radiofrequency waves in the peripheral cornea to cause peripheral corneal shrinkage and central steepening. This procedure is very safe, but its effect is often not long-lasting, and regression is common after a few years.

Intracorneal ring segments:

Intacs are approved for the correction of low myopia and for patients with keratoconus. Intacs are micro-thin plastic segments that are implanted into the peripheral cornea in order to flatten the cornea centrally. These rings can be removed, and their effect is usually completely reversible. They are only able to correct up to -3 diopters of myopia, and visual recovery is generally slower and less predictable than LASIK.

MYTHS ABOUT LASIK SURGERY**1. LASIK recovery time is lengthy and extensive**

Most patients are able to resume most normal daily activities within a day or

two following their procedure, and while everyone heals at their pace, most patients can head back to work within two days.

2. Laser vision correction is incredibly painful

Laser eye surgery actually is virtually painless. While some patients describe feeling mild discomfort from a slight pressure or vibrating sensation, most report feeling no pain during their procedure. Anesthetic drops are used to numb the eyes just before surgery begins, and you may be given a mild sedative as well. After your procedure, your eyes may have a foreign body sensation or irritation for a few hours, but for most patients, these side effects will go away in a few hours after taking a short nap.

3. LASIK is a “cure all” for glasses and contacts


LASIK surgery was designed to help reduce your dependency on glasses and contact lenses, but it does not guarantee that you will never need them again. LASIK patients are still susceptible to presbyopia, which occurs naturally with age.

4. LASIK is a lengthy procedure

In actuality, LASIK takes minimal time and can have life changing results. The average procedure, including prep time, ranges from 60 to 90 minutes, but the laser correction itself only takes about 10 to 15 minutes.

5. Lasers used during LASIK can cut through your eye

The lasers used during LASIK emit a cool beam of light, which is not capable of penetrating your body via your LASIK procedure. Rather than burning or cutting the biological matter of your body, excimer lasers used during LASIK have a useful property where they can remove exceptionally thin layers off of the surface of your eye with almost no heating or change to the remainder of your eye, making them ideal for these delicate surgeries.

Therefore, with proper evaluation and surgical technique, LASIK surgery can help one see the beautiful world around us without glasses or contact lenses. 

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

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Killer Pollution

Increasing pollution in the metropolitan cities is taking a heavy toll on our health. It has fatal impact even on unborn babies, posing a threat to future generations

BY DR NEELAM MOHAN



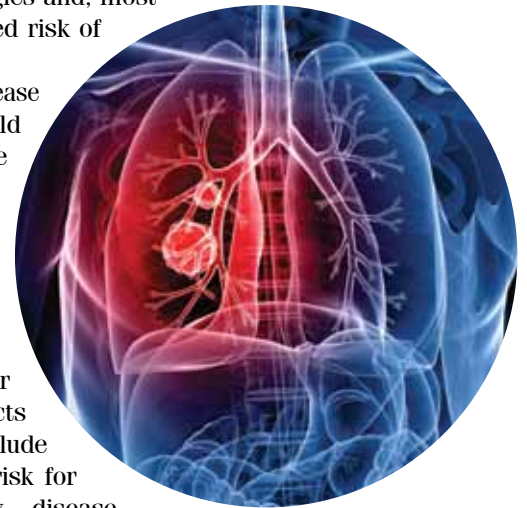
Children's health is very precious to all of us. With the increasing incidence of air pollution in metropolitan cities and its adverse effect on health of children, the policy-makers are facing an extraordinary challenge. The effects of air pollution are several folds.

Effects on lungs

Lungs are the primary target organ of air pollution. Serious effects include inflammation of the airway, alteration of the host defenses in the form of poor mucociliary clearance, macrophages function and immune response. These effects lead to cough, exacerbation of asthma, breathing difficulties,

sinusitis, nasal allergies and, most importantly, increased risk of respiratory infection.

All this leads to increase in infant and child mortality. Infants are more susceptible to injury by lung toxicants than are adults, even at doses below the no-effect level (NOEL) for adults. In the longer run, the chronic effects on the lung include increased life time risk for chronic respiratory disease including chronic obstructive pulmonary disease (COPD), asthma and lung cancer.



Dr Neelam Mohan

Effects on neuro development and behaviour

The developing brain is particularly vulnerable target for chemical insult. Long lasting or even irreversible developmental consequences may occur.

Persistent organic pollutants (POPs), Polyhalogenated aromatic hydrocarbon (PHAHs) like the polychlorinated biphenyls (PCBs), besides lead mercury and magnesium has been found to be associated with neurobehavioral deficit in children. Due to hand- mouth behaviour attitude in infants and young children the dust pollution particles may also be

ingested by small children besides being inhaled.

Autism spectrum disorders

The blood-brain barrier is not fully developed in young children, making them more susceptible to neuro toxicity. Higher incidence of hyperactive and aggressive behavior in children has been attributed to increase in air pollution.

Autism is a serious neuro development disorder characterized by impairment in social interaction, verbal and non-verbal communication, and other restricted behavior. Autism spectrum disorders (ASDs) have increased dramatically during the last 10 years. In a recent publication from California, a potential association between autism and estimated metal concentration and possible solvents, in ambient air around these patients, has been reported.

Effects on childhood cancer

Road traffic is a major source of ambient air pollution in urban areas, where density of population is high. Traffic-related air pollution is a complex mixture of many chemicals, of which many are known or suspected carcinogens. A high incidence of leukemia has been reported in children. Diesel and gasoline exhaust are classified by the International Agency for Research on Cancer (IARC), probably (Group 2A) and possible (Group 2B) carcinogenic to humans, mainly on the basis of animal experiments and epidemiological studies on exposed adults.

In 1989, however, a case-control study performed in Denver in the United States showed elevated risk of cancer among children living near streets with high traffic

Autism is a serious neuro development disorder characterized by impairment in social interaction, verbal and non-verbal communication, and other restricted behaviour. Autism spectrum disorders (ASDs) have increased dramatically during the last 10 years.



density. Benzene, one of the air pollutants, is due to evaporation from and incomplete combustion in petrol engines, as well as evaporation related to petrol stations and the refueling of cars. Occupational studies have shown that exposure to benzene causes acute myeloid leukemia (AML).

Effects on pregnancy

The fetus is considered to be highly susceptible to a variety of toxicants because of its exposure pattern and physiological immaturity.

A link between low birth weight, pre-term births and intrauterine growth retardation (IUGR) have been shown with air pollution. These issues influence subsequent health status of the child, including increased mortality and morbidity in childhood and an elevated risk of hypertension, coronary heart disease and non- insulin dependent diabetes in adulthood.

Effects on gut, skin, eyes


There is a major concern whether immunity is altered with air pollution. Some evidence suggests inhaling fine particles, or soot, may disrupt the immune system and trigger inflammation in the gut by making it more permeable and altering its normal bacteria.

There is an increasing incidence of inflammatory bowel disease over the last few decades. It's unclear how air pollution could contribute to gastrointestinal disease, but experts believe that bacteria may have something to do with it.

School absenteeism

A number of studies over the last few decades have looked into the indirect evidence that there may be an association between levels of atmospheric pollutants and adverse effects on the health of children. These studies have been based on the assumption that significant increases in school absenteeism may reflect the health effects of short-term increases in levels of pollutants.

Effects on the skin include dryness, premature aging, skin rashes, eczema and acne. Air pollution increases dry eye syndrome with increase in eye irritation, discomfort and specific issues are seen in contact lenses users.

Thus, there are a plethora of adverse effects of air pollution on our health and especially the health of children. 

(The author is Director, Department of Pediatric Gastroenterology, Hepatology & Liver Transplantation, Medanta Hospital, Gurgaon)



Saving our Children

Being exposed to loud noises is one of the most common causes of permanent hearing loss in children. There is a need for appropriate public health actions such as school hearing programs, regular screening camps for hearing loss in underprivileged communities, and increasing awareness through social and electronic media

BY DR. SUNEELA GARG/ DR KALIKA GUPTA

Communication Development and Behavioural Skills are influenced by a child's ability to hear. Hearing loss affects a child's social interaction; memory, comprehension and vocabulary development; emotional development, academic performance, speech perception and production.

Globally, 360 million people have hearing disorders and among them nearly 32 million are children. Prevalence of hearing loss in South Asia

in paediatric age group is 2.4. Overall, prevalence of disabling hearing loss in children all over the world is 1.7%. The incidence of hearing loss in the newborn population is estimated to range from 1-3 per 1,000 live births and in school aged children from 30-56 per 1,000.

The prevalence rises in older infants and toddlers if mild conductive hearing losses associated with otitis media with effusion are included in these estimates. Therefore, it becomes very important to identify hearing morbidities in young age

only and start treatment as soon as possible. To identify children with hearing loss that may hinder their ability to communicate, a systematic program for screening all children at certain ages and grades and for screening at-risk children must be implemented.

Screening and early diagnosis is the objective of primary health care. Hence, appropriate public health actions like school hearing programs, regular screening camps for hearing loss in under privileged communities ,

increasing awareness about otological disorders through social and electronic media and many other such measures would soon bring forth a world where hearing impairment will be thing of the past. Towards this noble goal, screening programs have a major role to play. But it is important to remember that a hearing screening is a screening only and not a complete assessment of hearing sensitivity. Not passing a screening does not necessarily indicate a hearing loss but rather is an indication of the need for an in-depth audiologic evaluation as soon as possible. Further, because of the limited scope of a screening, certain audiologic or otologic problems cannot be ruled out even if the screening is passed.

Screening practitioners should include school health professional who have received hearing screening training, educational audiologist, speech language pathologist and volunteer assistants. Screening can be done annually or half yearly. Pure tone audiometry, otoacoustic emissions (for preschool children), otoscopy and tympanometry would all together add greatly to the predictive value of the screening program.

Being exposed to loud noises like walkman, noisy neighborhood, radio over and over is one of the most common




Dr. Suneela Garg

causes of permanent hearing loss in adolescent age group. It usually develops slowly and without pain or other symptoms. Parents or the patient may not notice hearing deficit until it is severe. To tackle these issues, measures like using hearing protectors (earmuffs or ear plugs), controlling volume and efforts to make our surroundings noise free should be made. For this, we need some overly enthusiastic community hearing programs and camps to impart knowledge and assess the practices of people regarding ear care.



Dr Kalika Gupta

Approach to reduce hearing loss has a step ladder like pathway starting from the grassroots level and reaching to tertiary level care like providing hearing aids, cochlear implants, etc. In this endeavour, public health professionals and otologists are the foundation stones.

So, let's join hands and make life more fulfilling and joyful experience for those with hearing disorders. 

(The authors are Director Professor/PG, Community Medicine, MAMC, New Delhi)





Dr Suneela Garg

Suffering in Silence

Treating Sexually Transmitted Infections (STI) and Reproductive Tract Infections (RTI) is not an easy task due to stigma, ignorance, fear and embarrassment associated with sexual diseases

BY DR SUNEELA GARG



Sexually Transmitted Infections (STI) and Reproductive Tract Infections (RTI) pose a huge burden on the health care facilities with globally 499 million new episodes of curable sexually transmitted infections (syphilis, gonorrhoea, chlamydia and trichomoniasis) reported yearly (2008 estimates). A community

based STI/RTI prevalence study conducted during 2002-03 by the Indian Council of Medical Research (ICMR) has shown that 6% of the adult population in India has one or more STI/RTI. This amounts to occurrence of about 30-35 million episodes of STI/RTI every year in the country. Sexually transmitted infections are an important cause of infertility in men and women. According to the WHO, globally, among pregnant women with untreated early syphilis, 21% of pregnancies result in stillbirth and 9% in neonatal death.

It is also established that the risk of acquiring HIV infection increases manifold in people with current or prior STI. This is corroborated by high HIV prevalence rates among clients of sex workers: 22.8 percent in Andhra Pradesh, 15.2 percent in Maharashtra, 12.2 percent in Manipur and 7.4 percent in Delhi. If left untreated, they lead to complications such as infertility, ectopic pregnancy and cervical cancer.

STI/ RTI pose challenges to health care settings in terms of having

to deal with increased burden of patients and training needs of health care providers. Because of the stigma related to RTI/STI, there is a culture of silence. This is also attributable to cultural sensitivity, conditioned behaviour, ignorance, fear and embarrassment. Many of these can be prevented and treated, if present. However, many men & women suffer pain, stress and even death from inability to seek assistance.

These are also compounded by various factors like lack of access to health services, early marriage and childbearing, lack of adequate education, poor financial status, lack of adequate nutrition, and gender-based violence

According to the WHO, globally, among pregnant women with untreated early syphilis, 21% of pregnancies result in stillbirth and 9% in neonatal death.

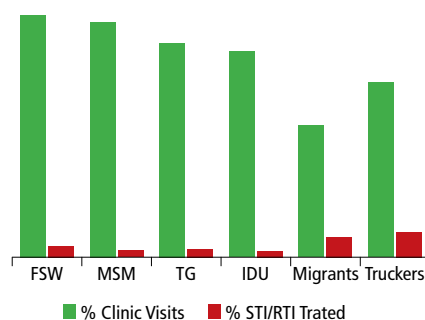
Role of NACO and Other organisations in STI/ RTI Prevention:

National AIDS Control Organisation (NACO) is duly addressing the issues of STI/RTI morbidity and National AIDS Control Program (NACP) envisages coverage of about 15 million STI/RTI episodes annually during the programme. NACO through its network of designated STI/RTI clinics (situated at government health care facilities at district level and above) is providing free standardized STI/RTI services. These clinics have been branded as “Suraksha Clinics” and provide sexual & reproductive health services. Standardized training to the medical and paramedical personnel based on syndromic case management approach is being provided and counselling services from trained counsellors are made available at these clinics. Colour coded syndromic drug kits and RPR



test kits are being centrally procured and supplied to these clinics. Laboratory support for STI/RTI has been strengthened through a network of seven regional STI centres. The number of clinic visits by HRGs in the year 2014 is given in the figure below.

STI Clinic visits Durring 2014-15 (up-Sept, 2014)




STI/RTI services are also being expanded though effective integration with the RCH programme. NACO and RCH division have jointly drafted technical guidelines on management of STI/RTI so as to ensure uniformity of service delivery across all facilities. New guidelines have also been released in 2014 for the management of RTI and STI. Private sector has been meaningfully involved through identification of preferred private providers to give services to the high risk group population served through TI projects. [5]

(The author is Director Professor, Department of Community Medicine, Maulana Azad Medical College, New Delhi)

Coping with Infertility

There is an alarming increase in the number of childless couples in India, but they need not lose hope!

BY AMRESH K TIWARY



According to a recent survey conducted in nine Indian cities, out of the 2,562 people who participated in it, nearly 46 percent were found infertile. Results from another parallel survey conducted among 100 infertility specialists showed that nearly 63 percent of the infertile couples belonged to the child-bearing age (31-40).

As life runs on the fast lane, a monster called infertility slowly makes inroads into the lives of urban India giving more and more young couples sleepless nights and problems in having a child. It is rather ironic that from a time when family planning drives launched in the 1970's were the Government's prime focus, the country has come to a point where suddenly young and modern India seems to be caught in the ever-increasing problem of infertility.

A trip through the infertility roller-coaster seems inevitable for many such hard hit couples who soon after marriage realize how uphill a task getting pregnant can be nowadays! With the crisis brewing at a rapid rate, almost 30 million couples in the country suffer from infertility, making the incidence of infertile couples to be 10 percent. Today, the number of Indian couples turning to artificial methods to conceive has gone up considerably.

However, keeping infertility at bay is not impossible at all and all that is required is pursued tenacity, consistency and will in our day-to-day activities. But before we go any further to delve deep into the problem, it is important to understand what exactly is infertility and how does one define it?

Every human being wishes to procreate and historically infertility



has been like a curse for any individual affected by it. Couples may find it difficult to conceive naturally due to different reasons. The ART (Assisted Reproductive Technology) consists of a comprehensive programme that is offered to such couples.

Explains Dr Sonia Malik, programme director, Southend Fertility and IVF, New Delhi, and president, Indian Fertility Society, "Assistance can be given to both men and women depending on the cause of infertility. Infertility management involves detailed investigations to reach a

logical diagnosis and then specific treatment. Infertility centres provide comprehensive infertility management/ART programme to patients. The various forms of treatments like Intrauterine Insemination (IUI), In Vitro Fertilization (IVF), Third Party Reproduction and Intracytoplasmic Sperm Injection (ICSI) are in vogue these days."

Intracytoplasmic sperm injection (ICSI, pronounced "eeksee" or "icksy") is an in vitro fertilization procedure in which a single sperm is injected directly into an egg. The technique was

"The time when women were solely battling the blame for being barren has become a part of the bygone era! There have been enough research revelations that have attributed the male for the cause of infertility and there is a general realization that implicating a woman with prejudice would only result in robbing the root cause of the issue. Now, one in every five men between the age group 18-25 is found to suffer from low sperm count – one of the main cause of infertility."

Dr Gauri Aggarwal,
Fertility Specialist, Yashoda
Superspeciality Hospital,
Ghaziabad



developed by Gianpiero Palermo around 1991 in Brussels. Today it has become the treatment of choice for men with weak sperms that cannot travel themselves into the egg.

Approximately 40% of infertility in couples can be attributed to male sub fertility. ICSI has raised hopes of these couples. This method of treating



“Assistance can be given to both men and women depending on the cause of infertility. Infertility management involves detailed investigations to reach a logical diagnosis and then specific treatment. Infertility centres provide comprehensive infertility management/ART programme to patients. The various forms of treatments like Intrauterine Insemination (IUI), In Vitro Fertilization (IVF), Third Party Reproduction and Intracytoplasmic Sperm Injection (ICSI) are in vogue these days.”

Dr Sonia Malik

Programme Director, Southend Fertility and IVF, New Delhi, and President, Indian Fertility Society

predominantly male-factor infertility has been a breakthrough, and it has established itself as the preferred method of treatment in the field of assisted reproduction.

When can ICSI be performed?

ICSI is an amazing procedure that can



be performed with ejaculated sperms or even with sperms retrieved from the epididymis or testis! Men with obstruction in their passages can father a child by using their own sperms that have been extracted by a surgeon. ICSI can also be offered to patients of previous IVF failures due to failed fertilization and patients with unexplained infertility. ICSI is different from conventional insemination since we clean away the follicle cells from around the eggs and an embryologist chooses the sperm to be injected. A small number of eggs do not tolerate the injection procedure and you can expect that about 5% of eggs die as a direct result of ICSI. However, fertilization rates, embryo quality and pregnancy rates are the same as for couples who do not have ICSI.

How is ICSI performed?

The process involves the injection of a single sperm within the ooplasm of the oocyte. Following the first ICSI birth in 1992 thousands of babies have been born around the world. Sperms for ICSI can be obtained from ejaculation, even when only few are present, or through surgical retrieval from epididymis or testis.

Microinjection is normally

performed under a specialized microscope with the aid of a micromanipulator which allows small movements under high magnification. The scientist/embryologist sits on the ICSI station, looks either directly into the microscope or at a monitor that magnifies the image and then injects the egg by moving two manipulators that look and function like joysticks. He holds the oocyte with one hand and injects through the other.

IVF

Reproduction is the process wherein there is fusion of the male and female gametes resulting in the exchange of genetic material, thus forming a new individual with an entirely different genotype.

Mammals reproduce through sexual reproduction but technology now allows mammals to reproduce “asexually” through the process of in vitro fertilization. In this technique, the entire process of fertilization takes place outside a woman’s body. This involves extracting a woman’s eggs, fertilizing the eggs in the laboratory with sperm, and then transferring the resulting embryo (s) into the woman’s uterus through the cervix (embryo transfer) where it can develop. Most



couples transfer two embryos; however, more may be transferred in certain cases. IVF is the most common form of ART and it is often the treatment of choice for a woman with blocked, severely damaged or absent fallopian tubes.

Evaluation and preparation of a couple

Proper evaluation of infertile couple before IVF is very important for the success of IVF and prevention of complications. Any ART procedure should be preceded by traditional fertility workup and at this stage it should be decided whether ART should be instituted, postponed for other treatment modalities or refused to the couple. Once the patient has been selected to undergo ART treatment, thorough testing of patient should be undertaken to correct any problems which may lead to IVF failure. At this stage, it should also be decided whether specific procedure such as egg, sperm or embryo donation is required.

Infertility is defined as difficulty in conceiving or becoming pregnant, despite having regular sex without contraception for two years in a row. The time a couple takes to conceive

could vary from days to months. Also earlier infertility was largely seen as only 'a female problem' with women easily becoming the target of social scorn.

Dr Gauri Aggarwal, Fertility Specialist, Yashoda Super Speciality Hospital, Ghaziabad, says, "Such a theory no more exists and the time when women were solely battling the blame for being barren has become a part of the bygone era! There have been enough research revelations that have attributed the male for the cause of infertility and there is a general realization that implicating a woman with prejudice would only result in robbing the root cause of the issue. Now, one in every five men between the age group 18-25 is found to suffer from low sperm count – one of the main cause of infertility."

With the problem having become widespread what are the reasons one may ask? Irregular and low sperm count, hampered sperm delivery and poor motility of sperms are prominent causes of infertility in men. Some other medical reasons such as obesity and lifestyle disorders that includes diet imbalance, addiction to smoking or alcoholism, sedentary existence, or mental and emotional stress also



The declining libido among urban couples has emerged as one of the main causes that has come to engulf couples living in the cities. Hectic schedules, poor work life balance, constant tension and increase in travel time leading to low levels of libido and less sexual activity among couples comes across as the biggest hindrance in conceiving nowadays. As stress levels are usually high among urban couples, poor eating habits and increase in medical conditions such as diabetes lead to lack of quality and quantity of sperms and eggs. Thus habits such as smoking, tobacco consumption, frequent drinking, unhealthy food habits and no exercise need to be immediately done away with.

Dr Sowjanya Aggarwal,
Infertility & IVF Specialist, Max
Super Speciality Hospital,
Vaishali

contribute to poor sperm count.

Dr Sonia Malik says, “On the other hand, polycystic ovary disease (PCOD), a condition characterized by excess production of hormones and lack of ovulation coupled with hectic lifestyle and job stress lead to conception problem amongst women. Primary ovarian insufficiency (POI) is another cause of ovulation problems. POI occurs when a woman’s ovaries stop working normally before she is 40. Other than the above changing lifestyle patterns, strenuous work schedules and stressful surroundings are some major reasons responsible for tilting the scale towards the inability to conceive. With an increase in stress and fatigue men and women often suffer from a steady decrease in the libido which has lately become an issue of concern for many.”

Having said that all is not gloom and to enable a hassle-free normal pregnancy it is prudent to adhere to certain precautionary measures on a day-to-day basis. The general preventive measures like maintaining weight, avoiding cigarettes, alcohol, reducing stress, increasing intake of nutritious diet, though very vital, may sound clichéd, but, certain factors that impact fertility in both men and women are being ignorantly dismissed.

High testicular temperature is increasingly attributed as a cause for male infertility. Scientific studies have indicated that prolonged use of mobile phones can significantly affect male infertility. Exposure to any type of intense and prolonged radiation is known to harm sperm production.

Although ovaries in women are protected in the interior of their body, testis located outside, not for aesthetic reasons, but for functional ones. Testicular temperature should be lower than the body temperature and anything distorting this may harm male fertility.

Thus, it would be wiser for men to wear loose underwear and pants and have frequent breaks when working in the sitting position continuously. Resting laptop computers on lap raises

the scrotum’s temperature, say researchers, and hence it is better to avoid using mini computers on laps literally!

Though physical exercises are imperative, great caution is required especially when it comes to specific sports where testis is not properly protected in men. Testicular injuries must always be treated without any delay lest it may result in long-term consequences on fertility.

According to **Dr Sowjanya Aggarwal**, infertility & IVF specialist, Max Super Speciality Hospital, Vaishali, another issue of concern is the declining libido among urban couples which has emerged as one of the main causes that has come to engulf couples living in the cities. Hectic schedules, poor work life

lack of quality and quantity of sperms and eggs. Thus habits such as smoking, tobacco consumption, frequent drinking, unhealthy food habits and no exercise need to be immediately done away with.

It could also be shocking to know that products like furniture polish, all-purpose cleaners, bug sprays, bathroom cleaners and room deodorizers may contain chemicals that could diminish conception by 33%. Organic, non-toxic alternatives are anytime a better option.

Dr Sowjanya Aggarwal said, “Paint thinners, household glues and oil paints can be toxic and negatively affect fertility increasing risk for miscarriage when pregnant. If a ‘sniff test’ indicates strong and offensive smell it’s only better to avoid them.



balance, constant tension and increase in travel time leading to low levels of libido and less sexual activity among couples comes across as the biggest hindrance in conceiving nowadays. As stress levels are usually high among urban couples, poor eating habits and increase in medical conditions such as diabetes lead to

Women should be wary of paraben, a preservative found in most of the cosmetics, from shampoo to moisturizers to lipsticks. Parabens belong to a group called xenoestrogens, or false estrogens that could induce infertility”.

Cow’s milk, especially that which is milked when the animal is pregnant is

rich in fertility enhancing hormones. Plastic needs to be avoided. Hormones leach more when unhealthy plastics are hot and wet. And finally, a good sleep is the most ideal as 80 per cent of ovulation occurs between midnight and 4 am. Interrupted sleep could weaken immunity, disrupt reproductive hormone levels and hinder ovulation.

Scheduling the doctor's appointment periodically is the best thing to do to assess your current fertility status and address any problems before you start trying to conceive. For those not being able to conceive despite years of effort, Assisted Reproductive Technology or artificial means of conception can come as a huge rescue.

In case of male infertility the treatment options available are medical – with hormones,

Male infertility programme

The last century saw rapid advances in the management of the infertile male both in diagnostics and treatment. The WHO gave guidelines for a proper semen examination and based on that treatment was decided.


Today, male infertility programme involves not only the standard testing procedures like semen analysis but also special tests to determine the fertilizing potential and quality of the sperm. This is called the DNA fragmentation test. Occasionally, we find that all sperms in a sample are non-motile but we are not sure of its viability. In such cases, we carry out the HOS test. In patients who are azoospermic on testing, testicular fine needle aspiration is undertaken. If this too does not show sperms in the sample, we proceed to a testicular

Third party reproduction refers to the use of oocytes, sperm, embryos or uterus that has been provided to a couple/single individual (called intended parents) by a third person (donor) in order to help them/him or her to become a parent.

According to the present Indian guidelines on ART drafted by the ICMR, all donors except the surrogate need to be anonymous to the commissioning couples. The ICMR guidelines also state that this activity of supplying various gametes and surrogates will not be carried out by the IVF centre but separate entities called ART banks. All the legal issues are also the responsibility of these banks. Once the requirement is fulfilled, the medical fitness of the donor is assessed. After fulfilling the various formalities, the couple and their donor/surrogate is taken into the third party programme.

Recurrent pregnancy loss programme

There is nothing more painful than losing a pregnancy repeatedly! It is not only devastating for the patient but also the treating doctor. RPL is defined as a situation where a woman has lost three or more than three pregnancies. In fact, RPL may be caused by chronic infections like genital tuberculosis. Majority of recurrent failures whether at implantation or later pregnancy is due to an impaired blood circulation within the pelvis, especially the uterus. The cause for this may vary.

Doctors carry out tests to rule out the cause of RPL and accordingly treat the patient. In case the patient has a genetic cause, the patient and her husband are informed regarding the defect and counseled regarding future implications. Endocrinal causes like PCOS can also be the reason and needs to be tackled by taking insulin lowering medication. There is no need to go through extensive testing after a single pregnancy loss. This could have happened by chance and one should not worry about it. 

multivitamins and antioxidants which give results for a period of three months and surgical through varicocele ligation in properly selected cases; IUI (Intrauterine Insemination) and IVF or In Vitro Fertilization in the case of women. But it is pivotal to consider the age factor as the older you are, the more difficult conception is.

biopsy. The sample is checked for sperms and if positive, it is frozen or cryopreserved till the wife is readied for ICSI. Men who have mild infertility can be offered IUI but those that have weak sperms are treated by either IVF or ICSI and recently IMSI.

Third party reproduction



“There should be strict guidelines regarding sperm donors”

Dr Sonia Malik, President of the Indian Fertility Society and Programme Director of South End Fertility & IVF, is one of the pioneers of fertility treatments in North India with her first centre at Holy Angels Hospital, Vasant Vihar, New Delhi, starting in 2001. With over 10,000 IVF cycles, Dr Malik has successfully been able to bring the joy of parenthood to several couples from India and abroad.

BY AMRESH K TIWARY

Dr Malik has a keen interest in academics and is also the chairman of the Infertility Committee, FOGSI (Federation of Obstetricians and Gynaecologists Society of India). She is a scientific collaborator at the Reproductive Research Centre, Cleveland Clinic, USA. Dr Malik has also served as the past president of the Indian Menopause Society.

With a degree in medicine from Rohtak Medical College, Dr Malik went on to gain international experience in Iran and Saudi Arabia before setting up her practice in Delhi. Her areas of interest are reproductive endocrinology, reproductive immunology, genital tuberculosis and premature ovarian failure. Under her guidance, Southend Fertility & IVF has a strong presence in Delhi and NCR and is now opening centres across North India.

Childless women in several countries are looking for fertility clinics abroad due to several problems they place in their own countries. With a young population, India can meet the demand. If we can embrace organ transplant, why can't we have sperm banks? Dr Sonia Malik, speaks about such challenges to Double Helical.

Q: Do you think it is morally wrong to donate sperms?



Dr Sonia Malik

Ans: It is ethically as well as morally correct to donate sperms provided it is done in the right manner following all the rules and regulations. There is no harm in helping others realize their dream.

Q: What kind of rules and regulations come into play when one goes to donate his sperms?

Ans: We need to follow all rules and regulations strictly because it is very important for the recipient couple as well as for the offspring born as a result of sperm donation. The donor should be medically, physically and mentally fit and free of any disease so that the offspring born is healthy. At the same time, all the legal and confidentiality issues should be given due importance and consideration.

Q: What should health regulators and policy-makers do in order to bring about necessary policy changes to facilitate sperm donation?

Ans: There should be strict guidelines as to who can be a sperm donor and for how many times and these should be strictly adhered to. All the required medical tests should be done and all the samples should be routed through the proper authorized sperm ART banks after the quarantine period is over.

Q: Do you think India can fill in the sperm shortage gap in countries like Britain and the US, suffering from such shortages? Please explain.

Ans: Yes, India can fill in the gap merely because of population ratio. But why is there a shortage of sperms in other countries? Is it because of strict rules there or apprehension of people to donate sperms there? If that is so then what are the reasons of apprehension there and free availability of sperms in India? The policy-makers must look into that. No rules and



regulations should be violated.

Q: Generally, donors are paid for donating sperms. How is the amount paid?

Ans: The amount varies from place to place and in my knowledge it ranges from Rs 500 to Rs 3,000. The variation is mainly because of their looks and educational qualifications.

Q: Sperms are a major source of infections, including HIV/AIDS. So, what are the vital things to be kept in mind while sourcing them?

Ans: Before taking the sperms for donation one should be very sure about the medical history and screening of the donor with regards to all the viral markers. Preferably they should be repeated after at least 3 months and then the sample released so as to be sure of the window period.

Q: How do you differentiate

healthy sperms from the unhealthy ones?

Ans: Healthy sperms are the ones where the semen analysis fulfills all the criteria set by the WHO for count, motility, morphology etc. Semen should be free of any infection. Of course, if we come to know whether the donated sperms have ultimately resulted in a pregnancy then they are the healthiest sperms.

Q: Do you think the youth should donate sperms? How would you encourage them?

Ans: It is entirely a personal decision and how one looks at it because sperm or egg donation is not comparable to something like blood donation where a stronger message can be sent across. One can guide the youth and counsel them or make them more aware through social media like the movie Vicky Donor did. 📺



Protect your Eyes

The cold days bring uncomfortable dryness and itchiness to eyes, necessitating proper care to ensure the health of eyes during winters

BY DR. MAHIPAL S SACHDEV



While people often think more about taking care of their eyes and protecting them from the sunlight in summers, our eyes can just as easily get affected by various factors in winters too.

Whether you're working in the office, on a winter vacation or just cozying up by the fire, it is essential to take good care of your vision by following some winter eye care guidelines for ensuring the health of your eyes:

1. Keep your eyes lubricated: Dry winter

air can cause your eyes to be more sensitive. The use of fire or heaters in closed areas leads to drying out the moisture in the air leading to irritation and increased dryness in your eyes. You should try to avoid sitting too close to the heaters and use lubricating eye drops to keep the eyes moist.

2. Wear sunglasses for UV protection: It is a common notion that sun rays cause damage to eyes in summer and in winters not much eye care is required. On the contrary, ultraviolet rays can enter your eyes and are also reflected

off the snow into your eyes leading to double the amount of UV exposure than normal and can also lead to inflammation of cornea. Excessive UV exposure can also lead to formation of cataracts.

Wearing UV protective sunglasses and a hat when outdoors also protects you from direct contact with dry and cold air in the eyes. Kids should be made to wear goggles with straps for full protection from cold air and flying debris getting in their eyes while running or playing.

3. Viral Keratitis: It is a condition where inflammation occurs in the eye's cornea. Researches have indicated that recurrence of Viral Keratitis is more common in winter months suggesting that low temperature can be one of the risk factors of recurring Viral Keratitis. To avoid or prevent keratitis, you should not touch your eyes frequently or with unwashed hands and if you are a contact lens user then use daily disposable contact lenses and a good lens solution.

4. Smog formation due to air pollution and fog in winters causes the dust and harmful particulate matter to enter our eyes making them dry and causing redness and irritation. Frequent blinking and keeping eyes moist by using



As weather changes, you should also change your routine and keep your skin well moisturized with an oil based moisturizer suited for your skin condition

skin inflammation. Sitting indoors with heaters and humidifiers also increases this tendency of the skin to dry. As weather changes, you should also

with moisturizing properties as well as high SPF for additional UV protection too.

6. Stay warm and keep well: Usually in winter months, our immune system is down and it can lead to frequent illness such as common cold and fever. Keep yourself and your family warm and well covered in proper woollens. It is essential to cover your head and ears to avoid catching cold or getting a headache or earache.


If you are experiencing particularly




lubricating eye drops is a good way to relieve the symptoms.

5. Skin moisturizing: The cold days of winter bring uncomfortable dryness and itchiness to the skin of the face and particularly the eyelids. In some cases, it may lead to cracked, flaked skin and

change your skin routine and keep your skin well moisturized with an oil based moisturizer suited for your skin condition. The oil-based moisturizer creates a protective layer on your skin and retains more moisture than your regular moisturizer. You can use a lotion

uncomfortable dry eye, redness or irritation in the eye, contact your eye doctor immediately. Take care of your eyes and enjoy the winter season. 

(The author is Chairman, Centre for Sight, New Delhi)



Hearing loss results in the inability to interpret speech sounds, often producing a reduced ability to communicate, delay in language acquisition, economic and educational disadvantage, social isolation and stigmatization. Through appropriate public health measures, current burden of ear morbidities needs to be reduced

BY ABHIGYAN

Cut off from the world

Hearing loss is the most common sensory deficit in humans today. As per WHO estimates in India, there are approximately 63 million people, who are suffering from significant auditory impairment; this places the ailment's estimated prevalence at 6.3% in Indian population.

Late Dr. S.N. Mehrotra Memorial ENT Foundation, Kanpur with Society of Sound of Hearing has taken up the challenge of eradication of deafness with an aim of achieving hearing for all

by 2030.

The aim of this study is to know the prevalence and treat patients of hearing loss. It introduces the concept of ear care workers, who identify patients having hearing loss by organizing regular ear health camps in rural areas of Kanpur district. Those patients who could be benefited from surgery or hearing aids are treated accordingly at low cost.

Says **Dr A K Aggarwal**, Professor of Excellence and well known ENT Specialist, "The ENT Patients with

history of hearing loss will be identified by ear care workers through our regular ear health camps in rural areas of Kanpur district. Patients who require surgery or hearing aids will be brought to our clinic, and will be subjected to clinical ENT examination, Otoscopy and pure tone audiometry. Surgery will be performed or hearing aids will be provided and patients will be followed up at regular interval. 150000 people from rural areas of Kanpur are expected to be screened for hearing loss through health camps."

This study emphasizes that through the introduction of concept of ear care workers, a large number of unprivileged patients with treatable causes of hearing loss can be provided with appropriate, cost effective and early treatment. If this concept is implemented throughout India, a significant reduction in deafness could be achieved.

Observes **Dr Sunceela Garg**, Dept. of Community Medicine at MAMC & Associated Hospitals New Delhi, "Globally, over 5% of world's population (more than 360 million population), have disabling hearing loss, according to new global estimates on prevalence released by the WHO, for International Ear Care Day. Of the total, 91% of these are adults and 9% are children."

Disabling hearing loss refers to hearing loss greater than 40 decibels (dB) in the better hearing ear in adults and a hearing loss greater than 30 dB in the better hearing ear in children. The majority of people with disabling hearing loss live in low- and middle-income countries. The prevalence of disabling hearing loss in children is greatest in South Asia, Asia Pacific and Sub-Saharan Africa.

Overall prevalence of disabling hearing loss in children all over the world is 1.7%. A person who is not able to hear as well as someone with normal hearing – hearing thresholds of 25 dB or better in both ears – is said to have hearing loss. Prevalence of hearing loss in South Asia in pediatric age group is 2.4%

Says **Dr A K Aggarwal**, "Consequences of hearing impairment will depend on the ear/s involved, the degree and the type of hearing loss and the age of onset. Due to distortion of sounds, differentiation of environmental sounds, including speech, is difficult; making sounds louder does not improve the clarity or quality of sound."

Similarly, recruitment, which is an abnormal growth in loudness, a characteristic of damage to the inner ear, makes it difficult to tolerate loud sounds. For children with hearing impairment, congenital or acquired before development of speech and

language, normal speech development is interfered with. With unilateral hearing impairment also, there is difficulty in localizing sound, reduced speech discrimination.

Consequences include inability to interpret speech sounds, often producing a reduced ability to communicate, delay in language acquisition, economic and educational disadvantage, social isolation and stigmatization. Communication and behavioral skills are influenced by a child's ability to hear.

Dr H P Singh, Senior, Child Specialist, Mother Child Care, Vaishali, said, "Hearing loss affects a child's social interaction; memory, comprehension and vocabulary development; emotional development, academic performance, speech perception and production. Children suffer from self-described feelings of isolation, exclusion, embarrassment, annoyance, confusion and helplessness."

Barriers for seeking ear care services like social stigma related to diseases, lack of awareness, shortage of human resources, quacks treating wrongly, late identification of the problems, etc need to be managed effectively. Hence, it is pertinent to review the current scenario of otological morbidities in Indian children and suggest possible interventions to fight against all odds."

Dr Sunceela Garg, said, "Fifty percent of hearing loss is preventable through public health actions. Therefore, through appropriate public health measures, current burden of ear morbidities can be halved. For this, we need to know the strengths and weaknesses of our health care system."

"The ENT Patients with history of hearing loss will be identified by ear care workers through our regular ear health camps in rural areas of Kanpur district. Patients who require surgery or hearing



"The ENT Patients with history of hearing loss will be identified by ear care workers through our regular ear health camps in rural areas of Kanpur district. Patients who require surgery or hearing aids will be brought to our clinic, and will be subjected to clinical ENT examination, Otoscopy and pure tone audiometry. Surgery will be performed or hearing aids will be provided and patients will be followed up at regular interval.

Dr A K Aggarwal, Professor of Excellence and well-known ENT Specialist

From time to time, public and private sector enterprises plan at both, small and large scale to help people with hearing impairment. But still, the services available and implementation status of actions to combat ear disorders is in naive stage.

In 2006, World Health Organization (WHO) released a new set of training manuals aimed at equipping health care workers in developing countries with

“Fifty percent of hearing loss is preventable through public health actions. Therefore through appropriate public health measures, current burden of ear morbidities can be halved. For this, we need to know the strengths and weaknesses of our health care system.”

Dr Suneela Garg, Dept.
Community Medicine MAMC &
Associated Hospitals New
Delhi

simple and cost-effective methods to reduce deafness and hearing problems through actions at the primary level of health care.

The Primary Ear and Hearing Care Training Resource addresses the urgent need for action to prevent and manage ear diseases and hearing impairment. They are designed to be useful to a wide range of people, from village health workers to more experienced health care personnel. The manuals can also be used to help communities understand common causes of deafness and hearing impairment and ways to prevent and/or treat the conditions.

Vaccination against childhood diseases that can cause hearing impairment, good ear hygiene, appropriate use of medication, and avoidance of excessive noise are examples of simple ways of preventing deafness and hearing impairment.

Education of children with hearing impairment in India is just a little over a hundred years old. After Independence, improvements were seen with the establishment of many new schools in the 1950s and many programs based on the new technology came up in the 1960s. The sixties saw



the establishment of the All India Institute of Speech and Hearing in Mysore where facilities for diagnosis of hearing impairment in infants and young children were available.

At present, over 500 schools for the hearing impaired children are available in the country. The Government established and administers some schools whereas the NGOs run many others. Most of the schools,

still residential, admit children aged 5 years and above who spend the entire school year in the hostels; they go home only during summer vacation. Provision of vocational courses and sheltered workshops facilitates spending almost the entire lifetime of some students in these schools. Two colleges for the Deaf, one in Chennai,





“Hearing loss affects a child’s social interaction; memory, comprehension and vocabulary development; emotional development, academic performance, speech perception and production. Children suffer from self-described feelings of isolation, exclusion, embarrassment, annoyance, confusion and helplessness.”

Dr H P Singh, Senior Child Specialist, Mother & Child Care, Vaishali

Tamil Nadu affiliated to the University of Madras and another in Valakam, Kerala conduct degree courses in Commerce and Art subjects; a third program is under the Indira Gandhi National Open University, New Delhi. Educating children with multiple disabilities is a difficult task. In India training programs to train teachers to help children who are ‘deaf-blind’ has only recently begun.


The Ministry of Health and Family Welfare, Government of India in 2006, launched the pilot phase of the National Programme in Prevention and Control of Deafness. One of the objectives is early identification, diagnosis and treatment of hearing loss. The services/facilities available for early intervention in the country are covered under the following: (i) Medical intervention, (ii) Aids, appliances and cochlear implant, and (iii) Auditory and speech-language training.

Educating children with multiple disabilities is a difficult task. In India training programs to train teachers to help children who are ‘deaf-blind’ has only recently begun.

The earlier the parent/family accept the fact of impairment and follow a well-planned rehabilitation program under professional supervision, the better are the chances for the child and the family to lead a more normal life. Parental attitudes towards disability include inter alia acceptance, rejection, indifference and overprotection. Some parents work towards the development of the child, but feel the need to shelter and protect because of the disability. Overprotection denies the child the opportunity to achieve his potential in various areas of development.

Rehabilitation of persons with disabilities has gained momentum in India during the last decade with several states as well as the Union Government launching programs for their benefit. Community Based Rehabilitation and Integrated Child Development schemes are two major thrust areas in this endeavor.

On account of the multidimensional facets of hearing impairment, R & D activities call for in depth studies, both inter and multi-disciplinary. This calls for synchronized development in the

core discipline as well as in allied disciplines. Achievements in technology, bio-technology, information technology, and digital technology have ushered in developments in accessibility to digital programmable hearing aids, cochlear implant surgery, related rehabilitation technology and auditory genetic diagnosis. Exploration of indigenous technology and techniques is crucial to bring benefits of technological advances within the reach of the economically weakest among the disabled to meet their needs, whether for identification/diagnosis or habilitation/rehabilitation. 

Scourge of Women

Cervical cancer is the second most common cancer in women after breast cancer. There are no early symptoms for cervical cancer, yet regular screening can help!

BY TEAM DOUBLE HELICAL

Cervical cancer is a type of cancer that develops in a woman's cervix. Cancer of the cervix often has no symptoms in its early stages. If you do have symptoms, the most common is unusual vaginal bleeding, which can occur after sex, in between periods or after the menopause.

The cervix is the lower, narrow end of the uterus (the organ where a foetus grows). The cervix leads from the uterus to the vagina (birth canal). The main types of cervical cancer are squamous cell carcinoma and adenocarcinoma. Squamous cell carcinoma begins in the thin, flat cells that line the cervix. Adenocarcinoma begins in cervical cells that make mucus and other fluids.

Abnormal bleeding doesn't mean that you definitely have cervical cancer, but it should be investigated by doctors as soon as possible. If your doctor thinks you might have cervical cancer, you should be referred to see a specialist within two weeks.

Dr Suman Yadav, Senior Gynaecologist and Obstetrician, Pushpanjali Hospital, Gurgaon, elaborates, "Over the course of many years, the cells lining the surface of the cervix undergo a series of changes. In rare cases,



these precancerous cells can become cancerous. However, cell changes in the cervix can be detected at a very early stage and treatment can reduce the risk of cervical cancer developing."

Many cancer hospitals offer a cervical screening programme to all women from the age of 25. During cervical screening (previously known as a "smear test"), a small sample of cells is taken from the cervix and checked under a microscope for abnormalities.

An abnormal cervical screening test doesn't mean you definitely have cancer. Most abnormal results are caused by an infection or the presence of treatable precancerous cells, rather than cancer itself.

Women aged 25 to 49 years of age are offered screening every three years, and women aged 50 to 64 are offered screening every five years. For women who are 65 or older, only those who haven't been screened since they were 50, or those who have had recent abnormal tests, are offered screening.

What causes cervical cancer?

Dr Nirupma Singh, Senior Gynaecologist and Obstetrician,

Mother and Child Clinic, Vaishali, observes, “Almost all cases of cervical cancer are caused by the human papillomavirus (HPV). HPV is a very common virus that can be passed on through any type of sexual contact with a man or a woman. There are more than 100 different types of HPV, many of which are harmless. However, some types of HPV can cause abnormal changes to the cells of the cervix, which can eventually lead to cervical cancer.”

Two strains of the HPV virus (HPV 16 and HPV 18) are known to be responsible for 70% of all cases of cervical cancer. These types of HPV infection don't have any symptoms, so many women won't realise they have the infection. However, it's important to be aware that these infections are relatively common and most women who have them don't develop cervical cancer.

Using condoms during sex offers some protection against HPV, but it can't always prevent infection, because the virus also spreads through skin-to-skin contact of the wider genital area. Since 2008, a HPV vaccine has been routinely offered to girls aged 12 and 13.

Treating cervical cancer

If cervical cancer is diagnosed at an early stage, it's usually possible to treat it using surgery. In some cases, it's possible to leave the womb in place, but in others it may need to be removed. The surgical procedure used to remove the womb is called hysterectomy.

Radiotherapy is an alternative to surgery for some women with early stage cervical cancer. In some cases, it's used alongside surgery. More advanced cases of cervical cancer are usually treated using a combination of chemotherapy and radiotherapy. Some of the treatments used can have significant and long-lasting side effects, including early menopause and infertility.

Complications

Many women with cervical cancer will have complications. These can arise as a direct result of the cancer or as a side effect of treatments such as radiotherapy, chemotherapy and surgery. Complications associated with cervical cancer can range from the relatively minor, such as minor bleeding from the vagina or having to urinate frequently, to life-threatening, such as severe bleeding or kidney failure.

Dr Suman Yadav said, “The stage at

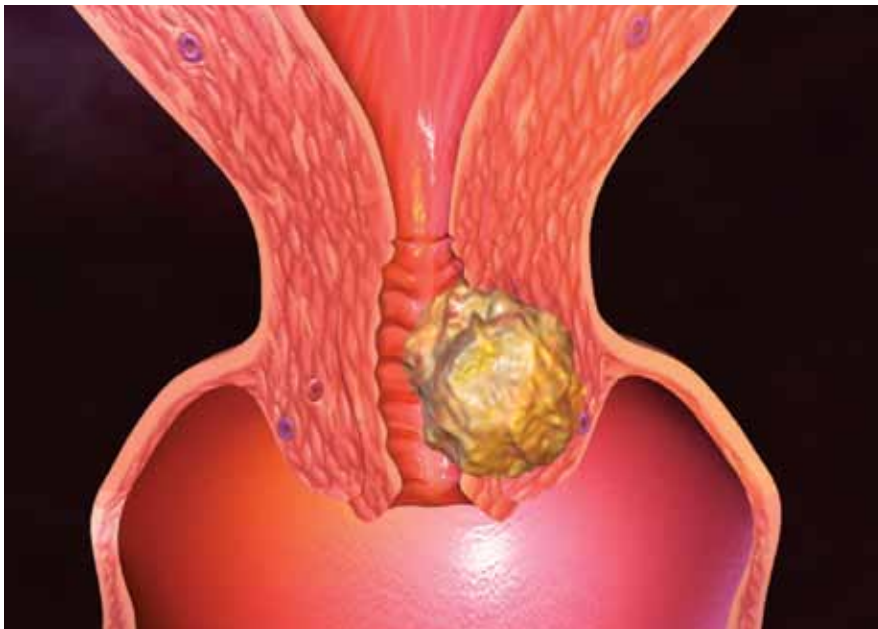


“Almost all cases of cervical cancer are caused by the human papillomavirus (HPV). HPV is a very common virus that can be passed on through any type of sexual contact with a man or a woman. There are more than 100 different types of HPV, many of which are harmless. However, some types of HPV can cause abnormal changes to the cells of the cervix, which can eventually lead to cervical cancer”

Dr Nirupma Singh, Senior Gynaecologist and Obstetrician, Mother and Child Clinic, Vaishali

which cervical cancer is diagnosed is an important factor in determining a woman's outlook. The staging, given as a number from one to four, indicates how far the cancer has spread. The chances of living for at least five years after being diagnosed with cervical cancer are - stage 1 – 80-99%, stage 2 – 60-90%, stage 3 – 30-50% and stage 4 – 20%.”

It's possible for women of all ages to develop cervical cancer, but the





“Over the course of many years, the cells lining the surface of the cervix undergo a series of changes. In rare cases, these precancerous cells can become cancerous. However, cell changes in the cervix can be detected at a very early stage and treatment can reduce the risk of cervical cancer developing”

Dr Suman Yadav, Senior Gynaecologist and Obstetrician, Pushpanjali Hospital, Gurgaon

condition mainly affects sexually active women aged between 30 and 45. Cervical cancer is very rare in women under 25.

Abnormal vaginal bleeding like bleeding after sex (vaginal intercourse), bleeding after menopause, bleeding and spotting between periods, and having longer or heavier (menstrual) periods than usual, bleeding after douching or after a pelvic exam are among the common symptoms of cervical cancer.

No early symptoms

Says Dr Nirupma Singh, “Women with early cervical cancers and pre-cancers usually have no symptoms. Symptoms



often do not begin until a pre-cancer becomes a true invasive cancer and grows into nearby tissue leading to experience of pain during sex (vaginal intercourse). You must then consult your doctor.”

These symptoms can also be caused by conditions other than cervical cancer. For example, an infection can cause pain or bleeding. Still, if you have any of these problems, you should see your health care professional right away – even if you have been getting regular Pap tests. If it is an infection, it will need to be treated. If it’s cancer, ignoring symptoms might allow it to progress to a more advanced stage and lower your chance for effective treatment.

Long-lasting infections with certain types of HPV cause almost all cases of cervical cancer. Vaccines that protect against infection with these types of HPV can greatly reduce the risk of cervical cancer. Having a Pap test to check for abnormal cells in the cervix or a test to check for HPV can find cells that may become cervical cancer. These cells can be treated before cancer forms.

According to Dr Akanksha Rathi and Dr GS Meena, Department of

Community Medicine, Maulana Azad Medical College, New Delhi, if we look at statistics, cervical cancer is the second most common cancer in females after breast cancer. Out of all those who develop cervical cancer, more than half of the women die within 5 years.

The disease toll is around 70,000 deaths each year. The disease causes not just deaths but lot of suffering, loss of working hours and big expenses on its treatment. The financial burden that this disease poses over Indian economy is more than any other chronic disease with the exception of cardiovascular disease. Due to high number of cervical cancer cases in the population, it has the highest total cost of secondary care (100,000 INR per 100,000 population) relative to all other cancers.

India shares one-fifth of the cervical cancer burden of the world. The reason for such a high incidence of this disease is that the various risk factors for the disease are prevalent in our country like early marriage, early child bearing, poor genital hygiene, multiple sexual partners, high parity, smoking, low socio-economic status, infection with Chlamydia trachomatis,



micronutrient deficiency and use of long term birth control pills. The most important causative organism is HPV.

Vaccines against HPV

The recognition of the importance of HPV in etiology of cervical cancer has led to the development of vaccines against HPV. Two different vaccines that have been developed to prevent infection from HPV 16 and 18 and one of these offers added protection against HPV 6 and 11 (which cause genital warts). The quadrivalent and bivalent vaccines have been licensed for use in over 100 countries. Studies have shown these vaccine to be highly effective (90-100%).

The World Health Organization (WHO) has stated that these vaccines have excellent safety profile. Both vaccines need to be administered with 3 doses over a 6-month period, can be given to females aged 9-26 years (catch-up vaccination up to 45 years), and are most effective if given before the female's first sexual encounter. Since the vaccines should preferably be given in adolescence or pre-adolescence phase thus more than 50 countries have introduced this vaccine in national immunization programme

for girls. Australia, the first country to introduce the vaccine, now has the lowest cervical cancer incidence in the world.


Despite the high incidence of cervical cancer and effectiveness of the vaccine against it, there is little

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awareness about the disease, its screening and its vaccine. Lately, the advisory bodies in India like Indian Academy of Pediatrics (IAP) and Federation of Obstetric and Gynecological Societies of India (FOGSI) recommended HPV vaccines to females 9 to 45 years of age for prevention of cervical cancer. However, few young girls have access to the vaccine.

The vaccine is costly and primarily available with the private sector. It is presumed that the cost of the vaccine along with the operational costs will be humongous (\$120 per dose). The Indian Government is still struggling to improve the immunization status of under-5 children and vaccination of adolescent girls is nowhere on its priority list.

The awareness about the vaccine even among high socio-economic groups is quite low. A survey in Eastern India among educated urban men and women, with at least one girl child and belonging to middle or high socio-economic group, revealed that 72% had never heard of HPV. Only 46% of parents were in favor of vaccinating their daughters against an STI; however, after going through a brief information sheet about the HPV vaccine, 80% agreed to vaccination. The most common reason for not accepting the vaccine was uncertainty about the safety of a new vaccine.

The main reason for the high mortality from cervical cancer in India is late detection of this disease. Government and private health care providers can join in this effort and offer these services. It is extremely important for sexually active women over 30 years of age to get screened every 3-5 years. The age of developing this disease is decreasing and now it is recommended that the screening should start at 25 years of age. Screening approaches in India can reduce the lifetime risk of cancer by approximately 25-36%. Thus, screening is imperative if we want to bring down the mortality rates of this disease. 



Misuse of diagnosis

In view of the skewed sex ratio, the Ministry of Health and Family Welfare has undertaken several measures to provide for the prohibition of sex selection. The need is for generating more awareness to protect the girl child

BY DR VINAY AGGARWAL

India, the child sex ratio is defined as the number of females per thousand males in the age group 0–6 years. Obviously, an imbalance in this age group will extend to older age groups in future years. Currently, the ratio of males to females is generally significantly greater than 1, i.e. there are more boys than girls. Sex ratio is an important and useful indicator to assess relative excess of deficit of men or women in a given population at that point of time. Sex differentials can be due to difference in mortality rate, migration, sex ratio at birth and at times the undercounting of women at the time of population enumeration.

With Prime Minister Narendra Modi's initiative to the 'Beti Bachao Beti Save Girl Child', Haryana's child sex ratio (0-6 age group) has recently crossed the 900 mark, for the first time in 10 years, in December 2015. This is a major jump since 2011, when census figures revealed the state had the worst sex

ratio in the country -834.

As per reports, Sirsa topped the table with 999 girls per 1,000 boys in the state infamous for female feticide. Officials said 12 districts have recorded gender ratio of above 900. Panchkula has registered a sex ratio of 961 followed by Karnal (959), Fatehabad (952), Gurgaon (946), Sonapat (942), Jind (940), Rewari (931), Mewat (923), Bhiwani, Mahendragarh (912) and Hisar (906). The state overall recorded a sex ratio of 903.

The government has set a target to achieve a sex ratio above 950 within the next six months for the entire state. The Jhajjar has been recorded the lowest sex ratio. To complete the mission Save Child Girl, the state government has announced an award of Rs 1 lakh for each informer giving leads about illegal sex determination tests and termination of pregnancies. The drive helped counter female feticide. The govt has awarded 17 people whose information has yielded results.



Dr Vinay Aggarwal

Several reasons are attributed to the decline in the number of girls – neglect of the girl child, high maternal mortality, female infanticide and foeticide. Sex-selective abortions have been greatly facilitated by the misuse of diagnostic procedures such as amniocentesis that can determine the sex of the foetus.

The prejudice against the girl child continues to be an issue of concern for UNICEF in India, which, together with its partners conceptualized the project 'Initiative to Reduce Sex determination & Pre-Birth Elimination of Females' to address the problem of female foeticide. As a result of the project activities in Mandya district in the state of Karnataka, the issue of sex selection and female foeticide was put on the public agenda and created mass awareness among the people in both rural and urban areas.

According to the decennial Indian census, the sex ratio in the 0-6 age group in India went from 104.0 males per 100 females in 1981, to 105.8 in 1991, to 107.8 in 2001, to 108.8 in 2011. The ratio is significantly higher in certain states such as Punjab and Haryana (118 and 120 respectively as per the 2011 census).

The impact of the current skewed sex ratio with more male children than females is already being felt in some parts of India, and is likely to continue to be so felt.

Having less women of marriageable age will mean that a significant



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proportion of men will in the first instance have to delay their marriage. This will initially affect younger generations of men in their 20s. These men will not only be in surplus within their cohort (age group), but they will also face competition from a backlog of older, unmarried men, who will still be in the marriage market.

This problem will not be overcome simply by delaying marriage, due to the cumulative impact of the skewed sex ratio over several generations. Thus a proportion of men will in due course have to forgo marriage altogether. The poorest males will be disproportionately affected by this marriage squeeze. This may cause destabilization, and may translate into class-based tensions.

It is commonly understood that males and females in the population balance each other in number. Little do they know sexes are imbalanced in different population across the worlds. According to United Nation estimates, the world had 986 females against 1000 males in 2000. Except Indonesia and Japan, all other Asian countries have low sex ratios. However, most of the developed European countries have high sex ratio. Interestingly the sheer weight of the population of the four

Asian countries, particularly China (944) and India (933) with low sex ratio contributes to the preponderance of males over females in world.

The Census has shown an increase in the sex ratio of total population from 927 in 1991 to 933 in 2001 though it still needs further improvement. Eighteen states/UTs recorded sex ratio above the national average of 933, while remaining seventeen fall below this. Chandigarh and Daman & Diu occupy the bottom positions with less than 800 females per 1000 males. In rural India, sex ratio is higher at 946 while in the urban areas there are only 900 females per thousand male populations. Migration of males to

The 'Pre Conception & Pre Natal Diagnostics Technique Act (PC & PNDT Act) provides for the prohibition of sex selection and for the prevention of misuse of diagnostic techniques for sex determination leading to female foeticide


urban areas could be one of the reasons for lower sex ratio in urban areas. Only Kerala and Pondicherry have sex ratio in favour of females for all the areas, Manipur has preponderance of females in urban areas.

Child Sex ratio (0-6 years)

The decreasing sex ratio in this age group has a cascading effect on population over a period of time leading to diminishing sex ratio in the country. One thing is clear – the imbalance that has set in at this early age group is difficult to be removed and would remain to haunt the population for a long time to come.

Though the national average for child sex ratio in the case of rural population is higher at 934 if compared to 906 of urban population, the position is not encouraging as this is also below the natural sex ratio at birth. Moreover, this has registered a decline if compared to 1991 when it was 948. Only Dadra & Nagar Haveli (1003), Lakshdweep (999), Chhatisgarh (982), Meghalaya (973) and Jharkhand (973) have satisfactory child sex ratio.

The Ministry of Health and Family Welfare has undertaken several measures to implement the 'Pre Conception & Pre Natal Diagnostics Technique Act (PC & PNDT Act). The Act provides for the prohibition of sex selection and for the prevention of misuse of diagnostic techniques for sex determination leading to female foeticide.

It also prohibits advertisements regarding facilities of pre-natal determination of sex of the foetus. All clinics in the country using pre-natal diagnostic techniques require to be registered. Violation of the Act is punishable with imprisonment. The State Medical Council of Punjab recently suspended the registrations of four doctors for violating the PC & PNDT Act. 

(The author is Former President, Indian Medical Association and Founder Chairman, Max Superspeciality Hospital, Vaishali)

Warm up to Health

Physical activity is very essential in the winter season to raise the circulation of blood to maintain the body temperature. It can help arthritis patients too, keeping their joints flexible, improving the range of motion and relieving the pain

BY DR. AMIT SARASWAT

Physical activity is very essential during the winter. By and large people tend to stay indoors and take in additional calories during the season, subsequently putting on weight. Lack of exposure to sunlight also leads to deficiency of vitamin D. Undertaking regular exercises not only burns calories but also releases endorphin, a mood-enhancing hormone.

Cold weather brings down the body temperature. In icy conditions, the body temperature can fall below 95°F and hypothermia sets in. The signs are headache, disarray and distorted cognizance.

Physiologically, in summer the body temperature increases and therefore the veins enlarge, expelling abundance of heat from the body. In winter, when the body temperature tends to diminish, the



veins of the arms and legs tighten so as to maintain a thermo balance. However, in extreme cold, the mechanism may fail. The hands and feet will become frosty, making them vulnerable to frostbites or chilblains. The affected part gets red and swollen, and might bring about tingling.

Treatment involves warming up, drying the affected part and exercising so as to raise the circulation of blood to maintain the body temperature.

Physical action also helps in certain cardiac problems. However, lively activities in chilly climate can prompt a rise circulatory strain and heart beat



rate. Such individuals should undertake vigorous activities with caution and under proper guidance.

One must also bear in mind that excessive liquor intake prompts heat loss leading to dehydration, impediment in judgment and a reduction in sensation, worsening cold wounds.

Precautions for exercise in winter

- Do listen to your body. Enjoy a reprieve when you feel exhausted, shortness of breath, distress in the mid-section, sickness, unsteadiness or cerebral pain, and so forth.
- It is advisable to do workout/outside exercises amid late morning rather than early morning or late at night when the temperature is low.
- It is prudent to manage your body temperature with the assistance of garments. Wear two-three layers of light garments rather than one overwhelming layer. Wear a vest or warm clothe ideally made of polypropylene, which draws the sweat far from the body. Cotton material is bad as it absorbs and holds dampness near the body. A second layer ought to give great protection. A third layer ought to be of fabric which is windproof and waterproof, and can be taken off if temperature increments.
- The course of the wind ought to be towards the face while beginning the open air workout and at the back while returning in order to maintain a strategic distance from frostbite because of the dissipation of sweat. Cool air does not solidify your lungs. When breathed in, air achieves body temperature in the lungs. Therefore, it is not essential to cover mouth and nose in the winter.

Exercise programme

Exercise enhances stamina, raises disposition and gets a sentiment prosperity. Activity need not be as a matter of course strenuous. Only 30 minutes' workout is adequate. Wellness implies quality, adaptability, equalization and perseverance. Subsequently, moving for perseverance, yoga for equalization and adaptability and lifting weights three

arthritis or lupus. The latter take longer to get up and loosen their joints and get going. As the weather changes, so can the pressure in the joints. If you imagine the tissues surrounding the joint as a balloon, it expands a little when the air pressure is low. The expanding tissues put pressure on the joint. People can actually feel changes in air pressure in their joints, which is why some people say they can predict the weather by the pain in their joints.

There are some medical options for

treating arthritis. You can take pain-relieving medicines by mouth. There are also injections of steroid medicines to decrease swelling in the joints, and splinting to support and protect your hands. If these options don't work, you may need to have surgery to fix the damaged joint.

There are many home remedies too you can use to reduce the pain and disability of arthritis. One easy and noninvasive way to keep the joints flexible and improve the range of motion



times every week for quality is a perfect blend.

1. Warm up exercises are possible indoors on a stationary bike or a treadmill, by climbing stairs, on-the-spot strolling, knee-twists, push-ups, and so on.
2. Venture outside. After a brief walk, begin running and gradually increase your pace.
3. As you complete your running, stroll for five minutes.
4. Go inside and do yoga practices for adaptability.
5. Exercise with dumbbell or stretch band ought to be done a few times every week.

Pain and arthritis in winter

Some people actually prefer cold weather, but not those with rheumatoid

and relieve the pain, is by doing exercises.

Treating arthritis of hands

Hand exercises can help strengthen the muscles that support the hand joints. This can help you perform hand movements with less discomfort.

Exercise 1 Make a fist: You can do this easy exercise anywhere, and any time your hand feels stiff. Start by holding your left hand up straight. Then, slowly bend your hand into a fist, placing your thumb on the outside of your hand. Be gentle. Don't squeeze your hand. Open your hand back up until your fingers are straight once again. Do the exercise 10 times with the left hand. Then repeat the whole sequence with the right hand.

Exercise 2 Finger bends: Start in the same position as in the first exercise, with your left hand held up straight. Bend

your thumb down toward your palm. Hold it for a couple of seconds. Straighten your thumb back up. Then bend your index finger down toward your palm. Hold it for a couple of seconds. Then straighten it. Repeat with each finger on the left hand. Then repeat the entire sequence on the right hand.

Exercise 3 Thumb bend: First, hold your left hand up straight. Then, bend your thumb inward toward your palm. Stretch for the bottom of your pinky finger with

hand makes an 'L' shape. Hold it for a couple of seconds, and then straighten your fingers to move them back into the starting position. Repeat 10 times, and then do the same sequence on the right hand.

Exercise 6 Finger lift: Place your left hand flat on a table, palm down. Starting with your thumb, lift each finger slowly off the table, one at a time. Hold each finger for a second or two, and then lower it. Do the same exercise with every finger of the left hand. After you're

and arm. Hold the position for a few seconds. Repeat 10 times. Then, do the entire sequence with the left hand.

Treating frozen shoulder in winter

Frozen shoulder symptom increases in winter season because the muscles get stiff and movements get restricted due to change in the pressure of the atmosphere. The air pressure decreases as the temperature drops and then the tissue swells leading to the aches in the joints.



your thumb. If you can't reach your pinky, don't worry. Just stretch your thumb as far as you can. Hold the position for a second or two, and then return your thumb to the starting position. Repeat 10 times. Then do the exercise with your right hand.

Exercise 4 Make an 'O': Start with your left hand pointing straight up. Then, curve all of your fingers inward until they touch. Your fingers should form the shape of an 'O.' Hold this position for a few seconds. Then straighten your fingers again. Repeat this exercise a few times a day on each hand. You can do this stretch whenever your hands feel achy or stiff.

Exercise 5 Table bend: Place the pinky side edge of your left hand on a table, with your thumb pointed up. Holding your thumb in the same position, bend the other four fingers inward until your

done with the left hand, repeat the entire sequence on the right hand.


Exercise 7 Wrist stretch: Don't forget about your wrists, which can also get sore and stiff from arthritis. To exercise your wrist, hold your right arm out with the palm facing down. With your left hand, gently press down on the right hand until you feel a stretch in your wrist

There are many home remedies you can use to reduce the pain and disability of arthritis. One easy and noninvasive way to keep the joints flexible and improve the range of motion and relieve the pain, is by doing exercises.

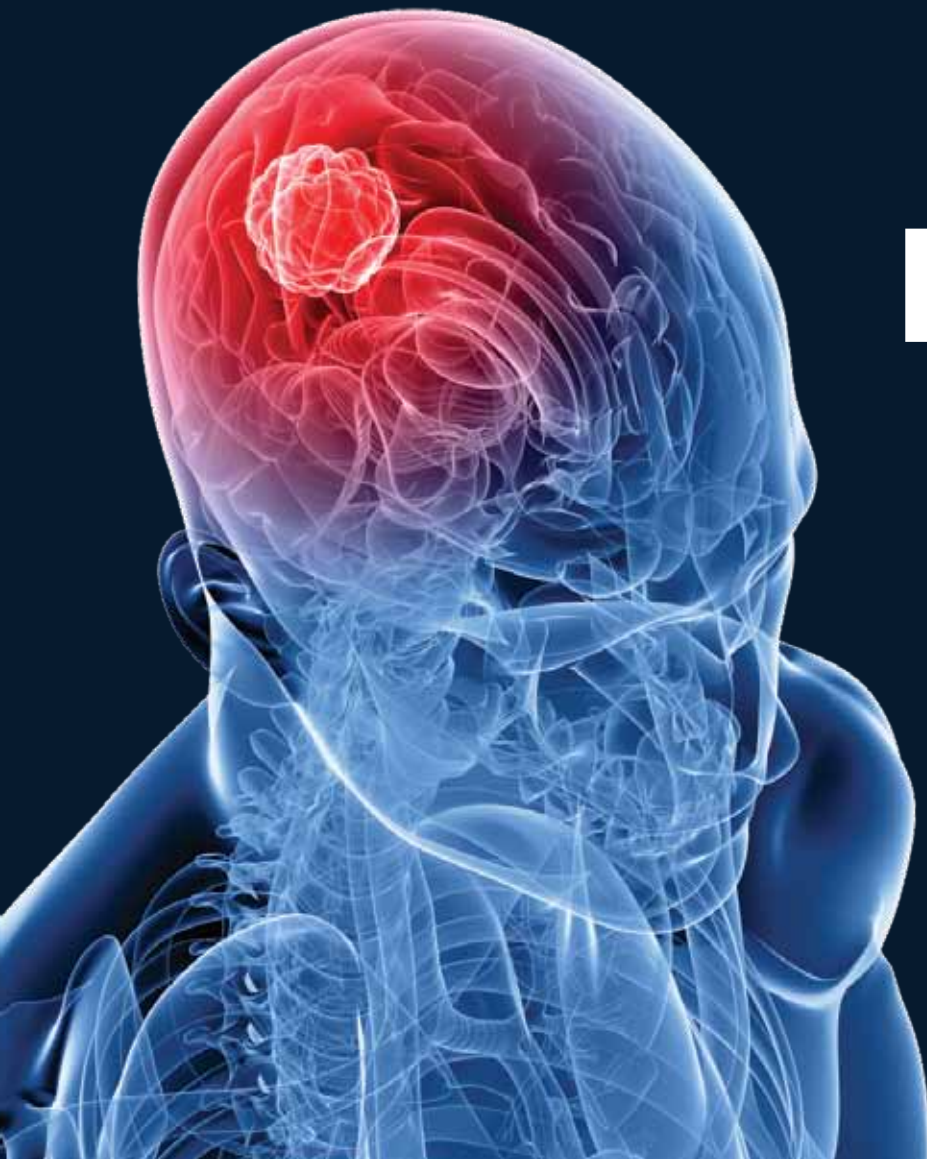
So those who have frozen shoulder in winter season should do proper exercise.

Preventing injuries

Young people play games like cricket, football, badminton etc. and perform dances as well but in winter muscles get stiff easily and they neglect doing warm-up and cool down before and after playing any sport. The benefit of warming-up is injury prevention because the blood will be pumping to an area, lowering the chance of muscle pull or joint injury.

The importance of warm-up exercise is that it keeps the muscle warm, prevents over-use injury and allows them to function effectively. 

(The author is an expert in physiotherapy and founder of Physioveda India, New Delhi)



Malignant Growth

Depending on the type, size and location of the tumour, there are various treatments available such as radiation therapy, radio surgery, chemotherapy, or targeted drug therapy

BY AMRESH K TIWARY

If a brain tumour is diagnosed, relieving symptoms remain an important part of care and treatment. Today, most tumours can be removed safely with microsurgical techniques in a manner that maximizes tumour removal and minimizes harm to the patients

How quickly a brain tumour grows can vary greatly. The growth rate as well as location of a brain tumour determines how it will affect the function of your nervous system. Brain

tumour treatment options depend on the type of brain tumour the patient has, as well as its size and location.

A brain tumour is a mass or growth of abnormal cells in your brain or close to your brain. Brain tumours can begin in the brain (primary brain tumours), or cancer can begin in other parts of the body and spread to the brain (secondary, or metastatic, brain tumours). Many different types of brain tumours exist. Some brain tumours are noncancerous (which are called

benign), and some brain tumours are cancerous (which are called malignant).

Primary brain tumours have many types. Each gets its name from the type of cells involved. Among them, Gliomas begin in the brain or spinal cord and include astrocytomas, ependymoma, glioblastomas, oligoastrocytomas and oligodendrogliomas.

A meningioma is a tumour that arises from the membranes that surround your brain and spinal cord (meninges). Most meningiomas are

noncancerous. Acoustic neuromas (schwannomas)-these are benign tumours that develop on the nerves that control balance and hearing leading from your inner ear to your brain. Pituitary adenomas-These are mostly benign tumours that develop in the pituitary gland at the base of the brain. These tumours can affect the pituitary hormones with effects throughout the body. Medulloblastomas-These are the most common cancerous brain tumours in children. A medulloblastoma starts in the lower back part of the brain and tends to spread through the spinal fluid. These tumours are less common in adults, but they do occur.

According to Dr Sonia Lal Gupta, Consultant Neurologist and Headache & Stroke Specialist at Metro Centre for Neurosciences, Noida, primitive neuroectodermal tumours (PNETs) are rare, cancerous tumours that start in embryonic (foetal) cells in the brain. They can occur anywhere in the brain. Germ cell tumours may develop during childhood where the testicles or ovaries will form. But sometimes germ cell tumours move to other parts of the body, such as the brain."

Craniopharyngiomas are rare, noncancerous tumours that start near the brain's pituitary gland, which secretes hormones that control many body

functions. As the craniopharyngioma slowly grows, it can affect the pituitary gland and other structures near the brain.

Cancer that begins elsewhere and spreads to the brain

Secondary (metastatic) brain tumours are tumours that result from cancer that starts elsewhere in the body and then spreads to the brain. Secondary brain tumours most often occur in people who have a history of cancer. But in rare cases, a metastatic brain tumour may be the first sign of cancer that began elsewhere in your body. Secondary brain tumours are far more common than are primary brain tumours. Any cancer can spread to the brain, but the most common types include breast cancer, colon cancer, kidney cancer, lung cancer and melanoma

Risk factors

In most people with primary brain tumours, the cause of the tumour is not clear. But doctors have identified some factors that may increase your risk of brain tumour. Risk factors include:

Age -Your risk of a brain tumour increases as one ages. Brain tumours are most common in older adults. However, a brain tumour can occur at



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Dr Sonia Lal Gupta,
Consultant Neurologist and
Headache & Stroke Specialist
at Metro Centre for
Neurosciences, Noida

any age. And certain types of brain tumours occur almost exclusively in children.

Exposure to radiation- People who have been exposed to a type of radiation called ionizing radiation have an increased risk of brain tumour. Examples of ionizing radiation include radiation therapy used to treat cancer and radiation exposure caused by atomic bombs.

More common forms of radiation, such as electromagnetic fields from power lines and radiofrequency



radiation from cell phones and microwave ovens have not been proved to be linked to brain tumours.

Family history of brain tumours - A small portion of brain tumours occur in people with a family history of brain tumours or a family history of genetic syndromes that increase the risk of brain tumours.

Diagnosis: If it's suspected that the patient can have a brain tumour, the doctor may recommend a number of tests and procedures. Magnetic resonance imaging (MRI) is commonly used to help diagnose brain tumours. In some cases, a dye may be injected through a vein in the arm during the MRI study called MRI brain with contrast. Other imaging tests may include computerised tomography (CT) scan and positron emission tomography (PET).

If it's suspected that the brain tumour may be a result of cancer that has spread from another area of the body, the doctor may recommend tests and procedures to determine where the cancer originated. One example might be a CT scan of the chest to look for signs of lung cancer.

A biopsy can be performed as part of an operation to remove the brain tumour, or a biopsy can be performed using a needle. The biopsy sample is then viewed under a microscope to determine if it is cancerous or benign. This information is critical to establish a diagnosis and prognosis and, most importantly, in guiding treatment.

Says **Dr Pradyot Govil**, Senior Onco Surgeon at Max Super speciality Hospital, Vaishali, Ghaziabad, "Headaches, nausea, vomiting, and dizziness are all possible symptoms of a brain tumour. Early symptoms can be subtle or obvious, depending on the type, size, and location of the tumour. However, just because a person has these problems, doesn't mean he or she has a brain tumour."

Adds **Dr Govil**, "Early symptoms of brain tumours can be vague or dramatic, depending on the tumour size, type, and location. No one knows what causes brain tumours; there are



only a few known risk factors that have been established by research. "Children who receive radiation to the head have a higher risk of developing a brain tumour as adults, as do people who have certain rare genetic conditions such as neurofibromatosis or Li-Fraumeni syndrome. But those cases represent a fraction of the approximately 35,000 new primary

"Headaches, nausea, vomiting, and dizziness are all possible symptoms of a brain tumour. Early symptoms can be subtle or obvious, depending on the type, size, and location of the tumour. However, just because a person has these problems, doesn't mean he or she has a brain tumour."

Dr Pradyot Govil, Senior Onco Surgeon at Max Super Speciality Hospital, Vaishali

brain tumours diagnosed each year. Age is also a risk factor – people over the age of 65 are diagnosed with brain cancer at a rate four times higher than younger people.

Treatment

Treatment for a brain tumour depends on the type, size and location of the tumour. If the brain tumour is located in a place that makes it accessible for an operation, the neuro- surgeon will work to remove as much of the brain tumour as possible. In some cases, tumours are small and easy to separate from surrounding brain tissue, which makes complete surgical removal possible. In other cases, tumours can't be separated from surrounding tissue or they're located near sensitive areas in your brain, making surgery risky. In these situations only the part of the tumour is removed which is safe.

Even removing a portion of the brain tumour may help reduce your signs and symptoms. Surgery to remove a brain tumour carries risks such as infection and bleeding. Other risks may depend on the part of the brain where your tumour is located. For



instance, surgery on a tumour near nerves that connect to your eyes may carry a risk of vision loss.

Radiation therapy

Radiation therapy uses high-energy beams, such as X-rays or protons to kill tumour cells. Radiation therapy can come from a machine outside your body (external beam radiation), or, in very rare cases, radiation can be placed inside your body close to your

brain tumour (brachytherapy).

External beam radiation can focus just on the area of your brain where the tumour is located, or it can be applied to your entire brain (whole-brain radiation). Whole-brain radiation is most often used to treat cancer that has spread to the brain from some other part of the body. Side effects of radiation therapy depend on the type and dose of radiation you receive. Common side effects during or

immediately following radiation include fatigue, headaches and scalp irritation.

Radio surgery

Multiple beams of radiation is used to give a highly focused form of radiation treatment to kill the tumour cells in a very small area. Each beam of radiation isn't particularly powerful, but the point where all the beams meet — at the brain tumour — receives a very large dose of radiation to kill the tumour cells.

There are different types of technology used in radiosurgery to deliver radiation to treat brain tumours, such as a Gamma Knife which is available in cancer institutions. Radio surgery is typically done in one treatment, and in most cases you can go home the same day.


Chemotherapy

Chemotherapy uses drugs to kill tumour cells. Chemotherapy drugs can be taken orally in a pill form or injected into a vein (intravenously). Chemotherapy side effects depend on the type and dose of drugs you receive. Chemotherapy can cause nausea, vomiting and hair loss.

Targeted drug therapy

Targeted drug treatments focus on specific abnormalities present within cancer cells. By blocking these abnormalities, targeted drug treatments can work.

Rehabilitation after treatment

Since brain tumours can develop in parts of the brain that control motor skills, speech, vision and thinking, rehabilitation may be a necessary part of recovery. Your doctor may refer you to Physical therapy that can help you regain lost motor skills or muscle strength. Occupational therapy can help you get back to your normal daily activities, including work, after a brain tumour or other illness. Speech therapy with specialists in speech difficulties (speech pathologists) can help if you have difficulty speaking. 



A close-up photograph of a hand holding a glass of beer. The glass is filled with a golden beer topped with a thick head of white foam. The background is blurred, showing what appears to be a social gathering.

Deadly Intoxication

Alcohol abuse, long viewed as 'rich man's problem' of the first world, is now a global phenomenon and is fast spreading its tentacles across the country. Here we take a look at the menace that threatens to take the country down the drain...

BY ABHIGYAN

Alarming incidence of alcohol consumption in Indian society has wide-ranging negative effects, manifesting not only in health-related aspects but in social and economic conditions too. Curbing alcohol abuse needs to be made a priority in public health policy for achieving a healthy India

A global phenomenon, alcohol consumption is now getting worldwide attention due to its harmful impact on the society. Alcohol is classified as psychoactive substance which produces dependence. It has not only important implications on health but

also social and economic aspect as well. There are a number of factors which determine alcohol consumption in a society.

According to Suneela Garg, Director Professor, Department of Community Medicine, Maulana Azad Medical College, New Delhi, cultural practices, level of development, alcohol production, distribution and marketing strategies are important factors. In India, alcohol consumption in social gatherings and on some religious occasions is an accepted norm. Similarly, consumption of alcoholic beverages is prevalent in many tribal and village societies around the world.

Individual factors also play a role in the pattern of alcohol consumption. Age group, gender, socio-economic factors, education, certain occupation, familial tendency, peer pressure etc are individual determinants of alcohol intake. Early age of initiation of alcohol intake leads to higher rates of diseases due to abuse, accidents and injuries.

Alcohol consumption, determinants of its use in different populations, consequences on health and different strategies to reduce the health and social burden caused by the alcohol abuse are important issues for public health in India.

Harmful use of alcohol is defined by

the World Health Organization (WHO) as “drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, as well as the patterns of drinking that are associated with increased risk of adverse health outcomes”. The abuse of alcohol leads to deaths of millions of people worldwide every year, making it an important issue for public health policy.

Shocking Figures

According to the WHO, worldwide 3.3 million deaths result from harmful use of alcohol every year, which is 5.9 % of all deaths. Alcohol consumption causes death and disability relatively early in life. In the age group of 20-39 years, approximately 25% of the total deaths are alcohol-attributable. A majority of this is due to injuries. Excessive use of alcohol kills or disables people at a relatively young age which puts a huge burden on society. Indian figures by the WHO shows that per capita alcohol consumption in the age group of 15 years and above is about 4.3 litres. Most common ill-effects of alcohol consumption in India are liver cirrhosis and road traffic accidents. Prevalence of alcohol use-related disorders is 2.2% in India.

Cause and Effects

Alcohol is a causal factor in more than 200 diseases and injuries. There is a causal relationship between harmful use of alcohol and mental and behavioural disorders. It is an independent risk factor for non-communicable conditions as well as injuries. Recent studies have reported the role of alcohol in infectious diseases like tuberculosis and HIV/AIDS too. Beyond health consequences, the harmful use of alcohol brings significant social and economic losses to individuals and society at large. The harmful effects of alcohol are dependent on amount, type and frequency of usage of alcohol.

Mental disorders:

Alcohol consumption leads to neuropsychiatric conditions called



alcohol use disorders. Epilepsy, seizure disorder, depression and anxiety are directly attributed to alcohol consumption.

Gastrointestinal diseases:

Liver cirrhosis, pancreatic diseases are some examples.

Cancers:

One of the most serious effects of alcohol is cancer. Alcohol is causative factor for cancer of the mouth, pharynx, laryngeal cancer, oesophageal cancer, colon and rectum cancer, stomach cancer, kidney and urinary bladder cancers, liver cancer and female breast cancer.

Injuries and accidents:

Alcohol consumption is directly associated with road traffic accidents, gang violence and criminal activities. These may lead to severe injuries leading to disabilities and deaths.

Cardio vascular diseases:

Alcohol consumption has negative consequences on hypertension, atherosclerosis, atrial fibrillation and stroke. Heavy drinking is a risk factor for heart diseases, stroke and diabetes.

Maternal and foetal mortality:

Alcohol, if consumed by female during

pregnancy, has detrimental effects on the baby. It leads to congenital deformities in foetus.

Infectious diseases:

Alcohol directly weakens our immune system, thereby making human body prone to a number of infections. This is especially relevant in pneumonia and tuberculosis.

Reproductive health outcomes:

Reproductive problems in females like reduced fertility. In males, it is associated with reduced sperm count and erectile dysfunction thereby causing fertility problems.

Socio economic consequences:

Alcohol consumption leads to inefficiency in work and in fulfilling family and social relations. It is associated with loss of job, poverty, domestic violence, damage to one's image in society, loss of productivity, absenteeism and earning potential.

Prevention and control measures

Dr Arvind Garg, Senior Consultant, Department of Paediatrics, Fortis Hospital, Noida, says, “The market forces which are promoting alcohol should be brought under legislative

control. Regulating the marketing of alcohol is essential since it has important impact on younger population. Restricting the availability of alcohol can be effective. Legislations should be made and strictly enforced. Taxation policies can have huge impact on alcohol demand and supply system. Raising public awareness about the harmful effects of alcohol is essential. Innovative strategies should be used including mass media campaigns for the same. More and more counselling and rehabilitation centres should be opened for those in need, all over the country. Those who recover should be integrated within the society without stigma and discrimination. All healthcare workers, social workers should be trained in counselling alcohol users.”

The WHO has launched “Global monitoring framework for the prevention and control of non-communicable diseases”. India being one of the signatory is committed to take measures for reduction of harmful effects of alcohol intake. In India, there is lack of a uniform law to cover alcohol production and sale across the country.

Certain states like

Gujarat have framed legislations at the state level to curb the menace. The Punjab Excise Act, which also extends to Haryana, prohibits establishments from employing women in any part of such premises in which liquor is consumed by the public. Drunk driving is a punishable offence. Legal limits are set for alcohol concentration for breath analyzer test.


“There are national ‘drydays’ which are specific days when the sale of alcohol is completely prohibited. The government of India has established detoxification centres and counselling centers for people who need special care and rehabilitation. Although steps have been taken, they are not sufficient enough. Despite its negative effects on almost every aspect of life, alcohol consumption has remained a relatively low priority in public health policy in India,” Dr Arvind Garg, said

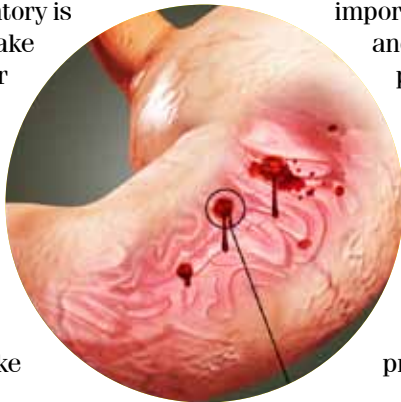
To combat the problem of alcohol abuse, political will is of utmost importance. Public policies and interventions to prevent and reduce alcohol-related problems should be formulated. All stakeholders should be involved while framing the public policies and frameworks for preventing alcohol



“The market forces which are promoting alcohol should be brought under legislative control. Despite its negative effects on almost every aspect of life, alcohol consumption has remained a relatively low priority in public health policy in India.”

Dr. Arvind Garg, Senior Consultant, Department of Paediatrics, Fortis Hospital, Noida

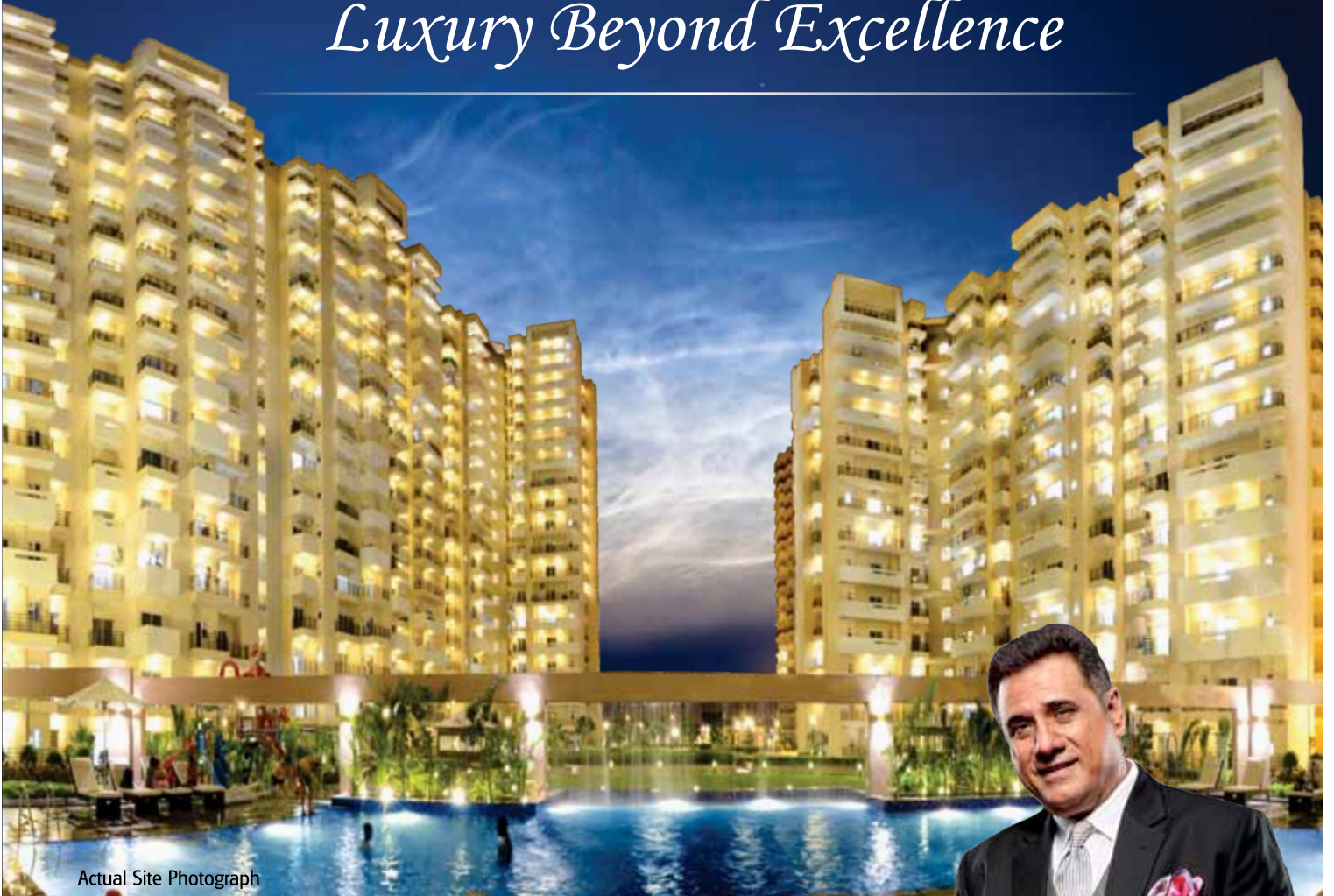
abuse. Specific care should be taken to prevent initiation of alcohol intake in early age groups like youth. Those who are affected should have access to services for care and rehabilitation. 



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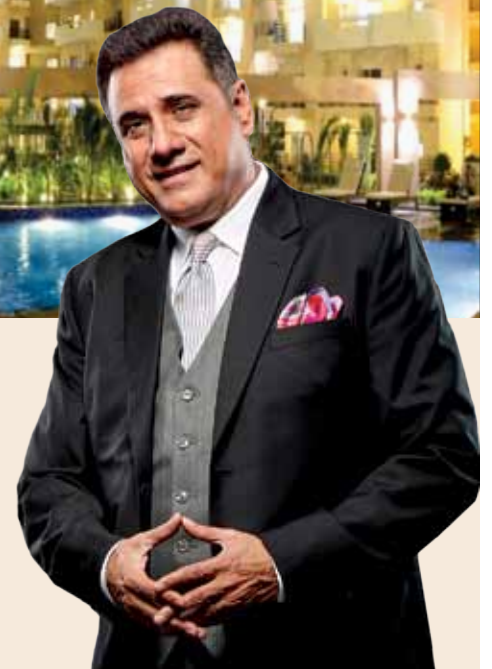
Actual Site Photograph

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Promoting Better Hearing



There is a disproportionately high burden of deafness in India most of which is preventable and avoidable. In India, 63 million people (6.3%) suffer from significant auditory loss. A 2011 Census has estimated hearing loss to be the second most common cause of disability accounting to 18.9% of disabled persons.

In India, there are a number of institutions which are engaged in promoting ear and hearing care in India viz. Rehabilitation Council of India, All India Institute of Speech and Hearing, Ali Yavar Jung National Institute of Hearing Handicapped and various medical colleges.

Rehabilitation Council of India is playing an instrumental role in promotion of ear and hearing care in the country. It is a statutory body under the Ministry of Social Justice & Empowerment, Department of

Startling statistics reveal an estimated 63 million people in India to be hard of hearing! A look at the role of institutions engaged in remedying the malady

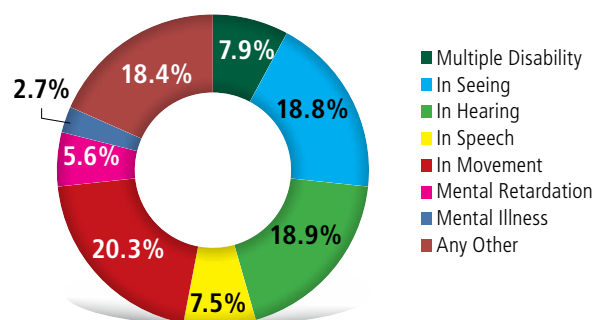
BY DR SUNEELA GARG, DEEKSHA KHURANA



Empowerment of Persons with Disabilities, Government of India. Rehabilitation Council of India regulates, monitors and standardizes the prescribed minimum standards of education and training for various categories of rehabilitation professionals. It also approves courses of study conducted by universities and institutions and makes necessary recommendation to university for recognition of such courses within and outside India. It is also playing a key role in promoting research in the field of rehabilitation & special education.

Proportion of Disabled Population by Type of Disability India: 2011 (Eight Disability Covered)

Type of Disability	Persons	Males	Females
In Seeing	18.8	17.6	20.2
In Hearing	18.9	17.9	20.2
In Speech	7.5	7.5	7.4
In Movement	20.3	22.5	17.5
Mental Retardation	5.6	5.8	5.4
Mental Illness	2.7	2.8	2.6
Any Other	18.4	18.2	18.6
Multiple Disability	7.9	7.8	8.1
Total	100.0	100.0	100.0



All India Institute of Speech and Hearing is an autonomous institute fully funded by the Ministry of Health & Family Welfare, Govt. of India, which was established in the year 1966. The institute is involved in imparting professional training, rendering clinical services, conducting research and educating the public on issues related to communication and language disorders. The institute is also the Nodal Center for implementation of National Program for Prevention and Control of Deafness under the Ministry of Health and Family Welfare, Government of India, and is also generating manpower for the same. The institute also offers Diploma in Hearing Language and Speech (DHLS) Program through distance learning mode since 2007 which is aiming towards faster rate of manpower development at assistant/ technician level. This program is being imparted through 14 centres across the country.

Ali Yavar Jung National Institute for the Hearing




Dr Suneela Garg

Deeksha Khurana

Handicapped (AYJNIHH) was established in 1983 and is an autonomous organisation under the Ministry of Social Justice and Empowerment, Government of India. Its regional centres have been established at Kolkata, New Delhi, Secunderabad and Bhubaneswar. In addition to manpower generation and research activities, Ali Yavar Jung National Institute of Hearing Handicapped (AYJNIHH) is undertaking hearing screening (ABR/ASSR/OAE/IA/PTA) and web-based hearing screening initiatives. AYJNIHH is the Nodal Agency for implementation of ADIP (Assistance to Disabled Persons) scheme as part of which cochlear implantation is being undertaken under the scheme.

Medical colleges play a leading role in combatting hearing loss. They are involved in manpower generation of different categories of human resources for ear care like ENT specialists, primary care providers, medical officers, audiologists, audiometricians, speech therapists, teachers for people with hearing loss and sign language interpreters. These institutions also serve as training units wherein they are involved in preparation of training modules and executing training programmes related to ear care. They are also involved in undertaking doctoral, diploma and distance education courses or programs for students and trainers. Various medical colleges have vital responsibility of implementation of National Programme for Prevention and Control of Deafness of Government of India is being at the district level since its inception in 2006.

Medical colleges act as referral centres for ear diseases and are involved in surveillance. Additionally, medical colleges also undertake research activities. They are also involved in IEC activities and carry out sensitization of community and house to house visits.

Effective response to hearing loss in the country needs to be organized at various fronts and institutions have an integral role to play in this regard. These institutions have over the years demonstrated their commitment to address the area of ear and hearing care. 

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

Unknown and Mysterious Fatigue

Chronic Fatigue Syndrome is a strange and mysterious malady that has no known cause or origin but continues to puzzle and ravage the humans like no other disease. Here we take a broad look at the way the diseases haunts our life

BY DR MANISHA YADAV



Dr Manisha Yadav

If you feel tired for a long period of time and find that nothing can boost your energy levels, then you might just be suffering from Chronic Fatigue Syndrome (CFS). The fatigue caused by CFS may worsen with physical or mental stress. There are many symptoms like

tiredness that may last for at least six months or even more which is not relieved by rest and is not caused by some other medical conditions such as mood swings, dizziness, loss of memory, difficulty in concentration, myalgia (muscle pain), arthralgia (joint pain) with no signs of inflammation, headache, recurrent sore throat and tenderness of cervical and axillary lymph nodes.

CFS is a debilitating illness of unknown origin and cause. It is often thought of as a problem in adults, but it also affects children and adolescents. Between 0.2% and 2.3% of children or adolescents suffer from CFS. It is more prevalent in adolescents than in younger children. In adolescents, CFS is more likely to develop after an acute flu or mononucleosis-like illness, but gradual onset of illness may occur. Currently, the diagnosis is made on the basis of ruling out other conditions that could explain most of CFS symptoms.

Managing CFS can be as complex as

the illness itself. Options for treating and managing it may include treating the most disruptive symptoms such as fatigue due to sleep problems, pain, and lightheadedness. CFS symptoms can vary over time and may require periodic re-evaluation. Primary care providers can develop effective treatment plans based on their experience in treating other complex illnesses. Management may require input from a variety of healthcare professionals (e.g. medical doctors, rehabilitation specialists, mental health professionals, and physical or exercise therapists) when available.

People normally feel that fatigue is caused by excessive physical stress, exercise, lack of sleep and nutrition. But there is another angle to this that most people are unaware of. Many serious illnesses may make you tired but there are a few minor health conditions that are found to leave you washed out. Iron deficiency anemia is one of the most common medical reasons to make you feel tired. Your



muscles will feel heavy or you will get tired easily, especially if you are pregnant. Depressed people usually feel exhausted due to sadness, loneliness and loss of appetite. Talk to your doctor to feel better and get rid of this problem quickly.

Underactive or over-active thyroid gland is found to make you feel tired. Common in women, this condition usually happens once you get older.

Sleep apnea is clinical condition that results in snoring and difficulty in breathing causing low blood oxygen levels in the body. This makes you to wake up often in the night making you feel exhausted the next day.

If you feel tired while performing normal day-to-day activities or are experiencing trouble with your daily exercise, then this is usually because of an undiagnosed heart trouble.

A few people develop Chronic Fatigue Syndrome after a viral infection. So, it is also known as Post Viral Fatigue Syndrome (PVFS). People suffering from

CFS have a slightly impaired immune system, but it is not clear whether this impairment is sufficient to actually cause this disorder. The significance of hormonal abnormalities is still unknown but the evidences point to certain abnormalities in the hypothalamic-pituitary-adrenal axis in the chronic fatigue syndrome.

As some patients produce low level of cortisol as compared to a healthy individual, their cortisol levels are still within the acceptable range of

what is considered normal. Therefore, cortisol level is not used as a way to diagnose CFS. Neurally mediated hypotension (abnormally low levels of blood pressure) and nutritional deficiency are also cause of chronic fatigue syndrome

Treatment strategies are usually symptomatic that is targeted to relieve the symptoms associated with it, so managing the disruptive symptoms first which are fatigue, sleep disorders, pain, depression, anxiety, dizziness, mood disorder, loss of concentration and infections. To maintain healthy, adding up of flax seed oil, green vegetables, avoiding coffee and junk and limiting the intake of dairy products are among a few changes in the dietary habit which will help to combat






energy. Sleep problems in adolescents with CFS may be challenging to detect, as sleep cycles may begin to change with the onset of puberty, such as staying up later and sleeping in. The demands of school classes, homework, after-school jobs, and social activities also affect sleep patterns.

Doctors can help people with CFS adopt good sleep habits. Patients should be advised to practise standard sleep hygiene techniques.

CFS patients frequently report experiencing post-exertional malaise or post-exertional relapse, which is the exacerbation of symptoms following physical or mental exertion. This

relapse typically lasts 12-48 hours after activity and could even last days, weeks, or months. For patients with CFS, managing activity levels is a key part of managing the illness. It is important to find a balance between inactivity and excessive activity, which can aggravate CFS symptoms. This often requires a new way of thinking about daily activities. For example, daily chores and school activities may need to be broken down into shorter time frames. A symptom diary can be very helpful for managing CFS. Keeping daily track of how patients feel and what patients do, may help to find patterns or identify triggers when symptoms start to affect daily activities.

Parents may work with teachers and administrators to redefine expectations of activity and performance for children with CFS. It is true that exercise can benefit children with certain chronic illnesses. While the overall goal is to help CFS patients tolerate exercise again, children with CFS should avoid activity that results in aggravated CFS symptoms. Activity programs aimed at vigorously increasing aerobic capacity are not recommended. 

CFS. Improving the quality of life means cognitive behaviour therapy is a moderately effective psychological therapy when is used to treat CFS. It is often used with other therapies to manage activity levels, stress and symptoms.

To treat CFS, a management programme should address major challenges, varying and unpredictable symptoms, a decrease in stamina that interferes with activities of daily life, memory and concentration problems that adversely affect school performance changes in relationships with family members and friends.

So doctors, family members, and patients need to communicate with one another about which symptoms are most disruptive or disabling so they can tailor the management plan accordingly. Treatment can be directed toward the most problematic symptoms as agreed upon by the patient, family members and doctors.

When family members and children communicate with doctors about the child's lifestyle and behaviours, they can make important distinctions. For instance, whether the child's lack of usual energy is because of fatigue or the result of normal changes in sleep

cycles that may begin at puberty. Such distinctions are important because they affect the management plan for the child.

Many CFS patients, including children and adolescents, experience sleep problems. Common sleep complaints include difficulty falling or staying asleep, daytime sleepiness, frequent awakening, and intense and vivid dreaming. Adult patients report that they feel less refreshed and restored after sleep than they felt before they became ill.

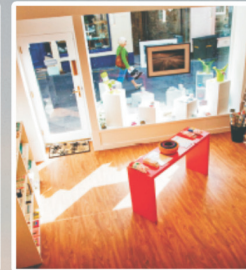
In young children, this problem is detected by a lack of their usual

“People normally feel that fatigue is caused by excessive physical stress, exercise, lack of sleep and nutrition. But there is another angle to this that most people are unaware of. Many serious illnesses may make you tired but there are a few minor health conditions that are found to leave you washed out”

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Embarrassing Incontinence

“You are what you eat.” This can’t be farther from truth when it comes to urinary tract infection. Our flawed lifestyle and bad diet play a major role in exacerbating the disease that affects a majority of women

BY DR PARTAP CHAUHAN



Dr Partap Chauhan

Urinary Tract Infection (UTI) is a common ailment that arises from an infection caused by a certain bacteria. The infection usually starts in the urethra and then spreads right up to the bladder and other parts of the urinary tract. The patient experiences a burning sensation when urinating and an increased frequency of urination. The condition is more common in women, as their urethras are smaller

and so are prone to infection more easily. The urethra in women is also closer to the anus, which is a source of contamination. Conditions such as diabetes, bowel incontinence, kidney stones, immobility, reduced intake of fluids, and pregnancy can also contribute to Urinary Tract Infection.

Causes

Increased intake of sour, salty, bitter, oily, spicy, and fried food, and tea, coffee, and alcoholic beverages



aggravate Pitta (Fire) in the body leads to UTI. Working in hot weather and excessive physical exertion aggravates the condition.

Symptoms

- Fever
- Burning sensation in the urethra
- Pain
- Discomfort
- Burning sensation while passing urine
- Presence of puss or blood in the urine

Ayurvedic View

According to Ayurveda, Urinary Tract Infection or Pittaj Mutrakrichhra is caused by the aggravation of pitta dosha. Pitta is an Ayurvedic humour that symbolizes heat or fire. So, a diet and lifestyle that increases Pitta causes UTI. Aggravated Pitta produces heating toxins in the body. These toxins accumulate in the mutravahi strotas (urinary tract) creating an imbalance in the infection-fighting properties of the urinary system. It might lead to bacterial growth in the system, amounting to UTI. Many chemical drugs work on bacteria, but these do not work on infection-fighting properties and heating toxins. Thus, such infection can often recur.

Ayurvedic medicine, on the other hand, balances the infection-fighting properties of the urinary system and pacifies heating toxins, thereby giving long-term relief to the patient.

Diet & Lifestyle Advice


- Avoid intake of hot, oily, spicy, sour, and salty foods.
- Increase intake of liquids like water, juices, coconut water, and other cool drinks.
- Increase intake of pitta-pacifying herbs like green cardamom, coriander, red sandalwood, licorice root, etc.

“Urinary Tract Infection affects more women than men, as the latter are more prone to such infections. Only Ayurveda promotes a very effective and holistic remedy for treating this in humans, while western medicine may offer quick relief without striking at the root of the infection”

- Avoid working in the sun or in a hot atmosphere such as near furnaces and boilers.
- Take a coldwater bath 2-3 times a day with ½ teaspoon of powdered red sandalwood added to the water.

Home Remedies

- Add 3 tablespoons of powdered coriander seeds and 1 tablespoon of powdered rock candy (or unrefined sugar) in a vessel (preferably an earthen pot) containing 3 cups of water. Keep it overnight. Mix well and drink 1 cup of the liquid 3 times a day.

This is a very good remedy for pacifying pitta in the urinary tract. 

(The author is Ayurvedacharyawith Jiva Ayurveda)



Brainstorming over the inclusion of children with hearing loss

A stakeholders meeting was organized by Society for Sound Hearing in collaboration with Department of Community Medicine, Maulana Azad Medical College, New Delhi, and CBM recently.

The objective of the meeting was to review the status of inclusion of children with hearing loss in mainstream schools and the challenges faced in its implementation. The meeting also aimed to assess the initiatives and role of Sound Hearing 2030 in promoting inclusion of children with hearing loss. This exercise was also important from the point of view of implementation of policies related to education in India.

The meeting was attended by 50 participants comprising ENT specialists, audiologists, public health experts, speech therapists, NGO representatives and special educators. Dr A.K. Sinha, Director, Ali Yavar Jung National Institute of Hearing Handicapped (AYJNIHH) was the chief guest for the event.

The meeting began with Dr Suneela Garg, Director Professor of Department of Community Medicine, MAMC, delivering the welcome speech. She mentioned how Department of Community Medicine has played a crucial role in implementation of activities of Sound Hearing 2030 and National Programme for Prevention & Control of Deafness. Dr Arun Agarwal, Director and Chair SSHI also welcomed all the experts and explained the objectives of the stakeholders meeting.

The first presentation was delivered by Dr Suneela Garg regarding “Inclusive

Education: Understanding the concept and Role of Society for Sound Hearing in promotion of inclusion of children with hearing loss”. She elaborated on the mainstreaming philosophy and the issues and challenges in mainstreaming. She also explained that Sound Hearing 2030 has developed guidelines for inclusion of children with hearing loss and has facilitated adaptation of these guidelines in different countries in South East Asia Region.

The second presentation was by Shubha Chandrashekhara “Barriers and challenges in mainstreaming of children with hearing loss”. She highlighted that non-inclusive attitudes by schools, teachers and parents, funding issues, lack of specialists’ support, lack of barrier free environment and curriculum act as the major barriers in mainstreaming children with hearing loss. In order to overcome these barriers, communication among stakeholders, coordinated planning between general education teachers and special education staff and continuous review of existing policies is essential for inclusion to work.

Suman Kumar, Dy. Director, Rehabilitation Council of India, delivered a talk on “Role of Rehabilitation Council of India in promotion of inclusion of children with hearing loss”. During his talk, he presented the requirement of human resource for rehabilitation and programmes currently being offered by Ministry of Social Justice and Empowerment which facilitates inclusion. He also highlighted the shortage of human resources dedicated for hearing care.

Dr Nishi Gupta, Head of ENT, Dr Shroff’s Charity Hospital, Delhi

highlighted the “Role of Public Private Partnership in mainstreaming of children with hearing loss”. She emphasised on the importance of early diagnosis of hearing loss in children and their treatment /rehabilitation. She spoke about the teleology project “SHRUTI” being undertaken by Dr Shroff’s Charitable Hospital wherein community-based door to door screening of children population in urban slums of Delhi was carried out using mobile device. She explained that as result of the project over thirty thousand people with ear morbidities had been identified and their treatment has been carried out. She also highlighted some challenges of such screening which requires redressal like low turn-over of patient to the hospital.

Dr Diwakar Jha, Head and Dr Tanu Anand, Assistant Prof, Dept. of Community Medicine, Hindu Rao Hospital, Delhi presented the talk on “Role of academic institutions in promotion of inclusion of children with hearing loss”. Dr Tanu Anand explained the fundamentals of inclusion. She also highlighted that academic institutions have an important role to play in inclusion by means of establishment of infrastructure for early intervention, manpower development, increasing awareness, implementation of national programme for deafness and other schemes for disabled and research and development. She emphasized that universally all children born in the medical institutions need to be screened.

Dr J C Passey, Head of ENT, MAMC, presented the talk on “Role of institutions in promotion of inclusion of children with hearing loss”. He



elaborated on the role of various institutions like Rehabilitation Council of India, All India Institute of Speech and Hearing, Mysore, Ali Yavar Jung National Institute for the Hearing Handicapped, Mumbai, National Institute of Rehabilitation Training and Research, Cuttack and Medical Colleges in promotion of inclusion of children with hearing loss. He also spoke about the various government programmes like National Programme for Prevention and Control of Deafness, Sarva Shiksha Abhiyan and Rashtriya Bal Swasthya Karyakram and the role of medical colleges in their implementation.

Shilpi Narang delivered a talk on “Role of technology in mainstreaming of children with hearing loss”. She mentioned how technology has benefited the children with hearing loss and how with technology including hearing aids, cochlear implants, FM systems and assistive devices has facilitated mainstreaming. She presented success stories of cochlear implanted children to support the same. She also showed a video depicting inclusion.

The key note talk was delivered by Dr Sinha on “Role of centres of excellence in promotion of inclusion of children with hearing loss”. Dr Sinha elaborated on the initiatives taken by AYJNIHH such as undertaking hearing screening and web based hearing screening initiatives. He also mentioned that AYJNIHH is the Nodal Agency for implementation of

ADIP scheme as part of which for cochlear implantation is being undertaken under the scheme. He also mentioned that for inclusion, schools should have resource room, FM system, use of sign language and parents’ participation. Lastly he mentioned that Department of Empowerment of persons with Disability, Ministry of Social Justice and Empowerment would soon be issuing universal ID numbers to all persons with disability which would contain details of their academic achievement, enrolment and progression. He concluded by saying that inclusion should be a meaningful exercise.

The stakeholders’ meeting was extremely fruitful with contribution from all the experts present. The meeting ended with vote of thanks by Ms. Deeksha Khuranato all the experts and attendees present.


Future Action

A representative from AYJNIHH, Delhi campus mentioned that the Central Board of Secondary Education (CBSE) has made it mandatory for all its affiliated schools to appoint a special educator to promote inclusive education. However, no deadline has been fixed for completion of this appointment. He also mentioned that the schools where these teachers have been appointed, the salary structure is not at par with other teachers resulting in loss of confidence

among these educators. Also in certain schools the educators are made to do jobs which are not in the purview of their responsibilities. Also there is no mechanism in place for monitoring the effectiveness of these educators. In this regard he proposed that if a document could be prepared on this and submitted to Ministry of Human Resource Development, it would be fruitful.

During the discussion, Dr Suneela Garg also mentioned that schools bearing the name “Deaf and dumb” should be renamed differently so that stigma attached to it could be reduced. In this regard, Dr A K Agarwal, Professor of Excellence, Maulana Azad Institute of Medical Sciences, New Delhi, suggested that Society for Sound Hearing should take up the task of preparing this document for submission to AYJNIHH.

Dr A.K. Sinha mentioned that since the word “Handicapped” is associated with stigma even at AYJNIHH, the procedure has been initiated to change the name of the institute.

Several other comments came up such as low salary of salary of audiologists which is resulting in low intake of this course. At the same time lots of position for audiologists are lying vacant. In this regard, a representation should be made to the ministry. Representative from NGO Amar Jyoti invited all the participants to visit them so as to see how actually the inclusion is occurring for visually impaired. 



AIIMS to procure machinery and equipment worth Rs 261.90 crore


The All India Institute of Medical Sciences (AIIMS) would be procuring machinery and equipment worth Rs. 261.90 crores in the financial year 2015-16. AIIMS has processed over a 1000 tenders for procurement and till date nearly 600 tenders have been finalized. An expenditure of Rs. 71.33 crore on machinery & equipment has been incurred. The Institute's main hospital and the Departments have been allocated Rs. 136.90 crore and for the Centres an allocation of Rs. 125 crore has been made.

Says V.Srinivas, Deputy Director Administration AIIMS, "All efforts are being made to ensure timely completion of procurement processes including regular meetings of the Technical Specifications Committee,

the Store Purchase Committee and the Price Negotiations Committee. The Institute has benefitted from the deployment of a Super Time Scale office as Chief Procurement Officer from the Directorate General of Supplies and Disposables who enabled formulation of a detailed procurement plan and streamlining of the procurement processes. Orders are being placed in all cases where the Store Procedure has been completed."

Major equipment being procured in the financial year 2015-16 include SMILE (Small Incision Lenticule Extaction) for Lasik Surgery by the Dr R.P. Centre for Ophthalmic Sciences, an RIS PACS system (radiology information system) to store, manipulate, and distribute patient radiological data and imagery by the

Department of Radiology and a High End CT scanner capable of advanced cardiovascular applications by Department of Cardioradiology CN Centre. In addition to replacement of anesthesia workstations with anesthesia modular monitors by the Department of Anesthesia, Robotic High Through Put Nanolitre Dispenser Crystalization System by the Department of BioPhysics and the 1.5 Tesla MR Scanner by the Department of NMR, a major strengthening of the Centre for Rural Health Services Project is being undertaken at Ballabgarh.

The new equipment would be installed in the current financial year and would significantly enhance the AIIMS capability to modernise patient care. 

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