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CGSI
ग्राहक सेवा सुरक्षा संतोष

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Keemat

The Consumer's Voice – Value for Price, People and the Environment

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Inside this Issue

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WHAT PERSONAL DATA IS BEING ACCESSED?

Mobile apps and websites obtain personal data of users from their devices via permissions and tracking mechanisms.

Android Apps

Read and write external storage tops the most accessed permissions list. The possible reason could be because these permissions are needed by apps to store intermediate results.

Top Dangerous Permissions Accessed

Top 4 dangerous permissions

88% Can write to your external storage

79% Have access to device ID and call details

69% Have access to your exact location

66% Have access to details about your email and social media accounts

Other key dangerous permissions

50% Have access to your camera

53% Can read your SMS

27% Have access to microphone

Category-wise dangerous permission

Average number of dangerous permissions per app - 8

Categories using the most dangerous permissions per app

16 Communication	**11.7** Mobile Wallets
10.3 Shopping	**10.3** Medical

Categories using the least dangerous permissions per app

3 Games	**3.5** Sports
4.2 Entertainment-Streaming	**4** News & Magazine

Source: Arrka Report

IF YOU MUST SIT FOR HOURS, TAKE A BRISK WALK TOO

If you spend all day sitting, you should dedicate at least an hour to some brisk walking too. Analysing data from more than 1 million people, researchers from the Norwegian School of Sports Sciences found that people with the highest levels of moderate physical activity and exercise — about 60 to 75 minutes — are more equipped to erase the damage caused by sitting for eight hours or more. The paper, published online in the journal Lancet, said that not exercising and sitting all day is as dangerous as being obese or smoking.

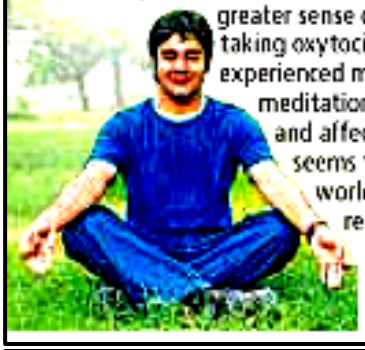
ISTOCK IMAGES

CYCLE TO LOWER CHANCES OF TYPE 2 DIABETES

People who cycle regularly are 20% less likely to get Type 2 diabetes than those who don't, concluded a five-year study of 50,000 Danish men and women aged 50 and 65. The more time spent cycling, the lower the risk, showed the study, which was published in the journal PLOS Medicine. It also concluded that it was never too late to start cycling to lower one's risk of chronic disease.

LOVE HORMONE BOOSTS SPIRITUALITY IN MEN

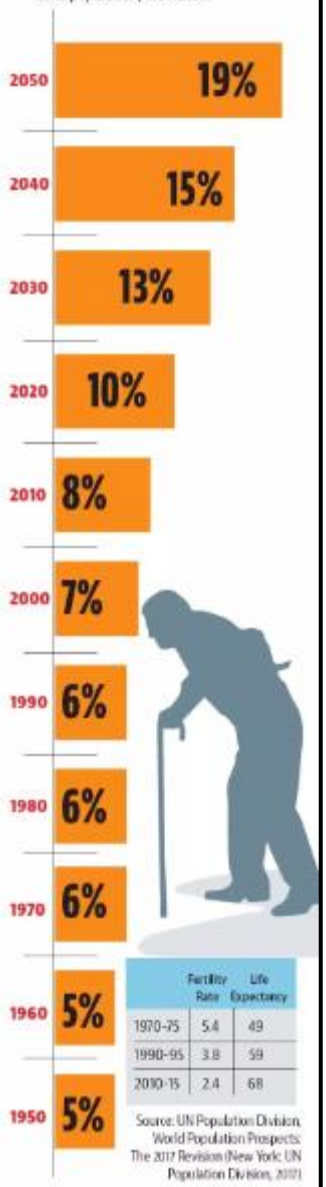
Oxytocin, dubbed the 'love hormone', may enhance spirituality in men, a new study has found. Researchers from Duke University in the US found that all-male participants reported a greater sense of spirituality shortly after taking oxytocin. A week later, they also experienced more positive emotions during meditation. While spirituality is complex and affected by many factors, oxytocin seems to affect how we perceive the world and what we believe, researchers found. The study appeared in the journal Social Cognitive and Affective Neuroscience.



HOW INDIA IS AGING

Although India is due to age significantly, its age wave lies well over the horizon

India's Elderly Population (aged 60 & over) as a share of the total population, 1950-2050



	Fertility Rate	Life Expectancy
1970-75	5.4	49
1990-95	3.8	59
2010-15	2.4	68

Source: UN Population Division, 'World Population Prospects: The 2017 Revision (New York: UN Population Division, 2017)

2020

When Medicines Don't Work

Ms. Jamna Vardhachary, Hon. Editor

What doesn't kill you makes you stronger. This applies not only to people but also to microbes. If you don't believe it, consider the growing phenomenon of drug resistance. Disease-causing pathogens are becoming increasingly resistant to common drugs, hampering the treatment of various diseases – malaria, tuberculosis, diarrhea, STDs and many others. Globally, 7 lakh people die every year due to antibiotic resistance, and this number is increasing rapidly. Experts say this could become the world's biggest health problem in the coming decades. What is drug resistance, how is it caused and how can we prevent it?

Microbes fight back

When disease pathogens are exposed to drugs, some die while others survive and multiply. Their offspring can inherit the ability to resist a drug or combination of drugs. Resistance levels can increase, and pathogens can become resistant to drugs that were previously effective. Resistance can even spread from one microbe to another, creating populations of "super-bugs". Resistant pathogens can also spread from one sick person to another, or through contaminated food and water. Recent studies have found drug-resistant microbes in water from the Yamuna river in Delhi, in mangroves in Kerala, and in fresh food (chicken, mutton, fish, vegetables) sold in Chennai. The Chennai study found a bacterium resistant to Colistin, one of the world's most powerful antibiotics. According to a recent report by the Indian Council of Medical Research, "Inappropriate use of antibiotics has transformed the healthy human intestinal gut flora into a reservoir of antibiotic-resistant organisms. At present, these organisms are resistant to low-end antibiotics but if the misuse persists, these may become resistant to high-end antibiotics also".

The microbes are winning

Are microbes beating the trillion-dollar global pharma industry? At the moment, yes. New drugs, multi-drug combinations and new methods such as phage therapy are being introduced. But overall, according to the World Health Organization, very few new antibiotics are being developed. Most of the drugs currently in the pipeline are modifications of existing antibiotics and offer only short-term solutions. There are very few new oral antibiotics, which are essential for treating infections outside hospitals and in rural areas and there are very few new drugs for some of the biggest threats, like drug-resistant tuberculosis. One reason, according to the pharma industry, is that a powerful new antibiotic is not necessarily profitable. Research costs are very high, prices are government-controlled, and the new drug will remain effective for only a few years until the bacterium becomes resistant.

Swasth Bharat

Drug resistance is a global problem but India is particularly affected. Antibiotics are relatively cheap and easily available, especially in cities. Most Indian antibiotics are broad-spectrum, i.e. effective against multiple bacteria, but broad-spectrum drugs are often less long-term effective than new-generation 'targeted' drugs.

Doctors tend to over-prescribe. Pharmacies are not well regulated; scheduled drugs are easily available without prescription. Poor sanitation and crowded hospitals mean more sick people, greater chance of misuse of drugs, and more drug resistance. The government is doing its best. We have a comprehensive National Action Plan including the famous Red Line campaign, where prescription-only antibiotics are marked with a thick red line to discourage over-the-counter sales. But one problem is lack of data. Against which drugs has resistance been found, and to what level? Are healthcare professionals aware of new treatment options? How many antibiotics are sold without prescriptions? Collecting this information is the first step towards a solution.

Why is drug resistance increasing?

Drug resistance is a natural phenomenon, and usually develops gradually, but it is now spreading much faster than expected. There are various reasons including manufacturing practices, improper disposal, and indiscriminate use of antibiotics in poultry and cattle. But the biggest factors in India are unnecessary prescriptions by doctors (often fueled by incentives from pharma companies) and lack of patient awareness, leading to overuse and misuse of common antibiotics. Many people have their own approach to medication. If you don't feel well, go to the local chemist. "*Tabyat theek nahin hai, koi accha dawa de do*". The chemist gives you his most profitable antibiotic, and you buy a good quantity. A couple of days later you feel better. So, you stop taking the medicines, and put them away to use the next time – even though your next illness may be quite different. If your neighbor falls ill you generously share your capsules. This is a perfect example of what NOT to do.

What can I do?

Drug resistance is a global problem, but each one of us can contribute to the solution. Do not self-diagnose. Consult a doctor, not a pharmacist. Always complete the course prescribed; do not stop halfway just because you feel better. Do not save or share leftover drugs, dispose of them carefully and of course, take care of hygiene – a clean body and a clean home means fewer infections, less need for drugs and ultimately, less drug resistance. Tuberculosis – especially drug-resistant TB – is a huge challenge. Government clinics offer free treatment and drugs, but these facilities are often under-used. Tell your friends (and particularly your house-help) which clinics are available in your area and impress upon them that they MUST complete the course. Antibiotics (and antimicrobials in general) are not just for minor ailments. They are a vital part of modern medicine. If drug resistance keeps growing, the consequences could be catastrophic. Let's help to make sure our medicines continue to work.

Keemat Cover Photo Legend	
Mr. Prashant Kale, Mr. Kailas Pagare, Mr. Arun Deshmukh all senior Government officials also faculty, with Dr. Sitaram Dixit, Chairman CGSI, during a Consumer Training Program "Jago Grahak Jago" for Maharashtra State Government Rationing Officers & Associates.	Mr. T. R. Pande addressing members of "My Retired Life Foundation" Nerul, Navi Mumbai at a SEBI sponsored seminar.
Mr. T. R. Pande, of CGSI office in a group photo with some members of "My Retired Life Foundation" Nerul, Navi Mumbai after a consumer awareness program.	Dr. R. P. Singh, Principal Advisor, National Productivity Council, New Delhi, during his visit to CGSI office, with Mr. Gautam Bhatia (CGSI Treasurer) and Mr. V. M. Kamat (CGSI – Office Manager) on either side.

CGSI Toll Free Consumer Help Line: 1800 22 22 62 & Email: mah.helpline@gmail.com

Letters to the Editor / CGSI

In the year of the 150th birth anniversary of Mahatma Gandhi, the following article published on Sept 27, 2006, in Times of India (Pune Edn.) is most relevant. The message is a "Success Sutra" for all aspiring MBAs. **Narendra Wagle, Ex-President, LM, CGSI**

THE MAHATMA AS MANAGER
Dr. Debashis Chatterjee, Professor at IIM, Lucknow

Dear Mahatma,

On behalf of Complex Lifestyles Solutions Inc., I thank you for applying for the job of Vice President (Corporate Communications) in our esteemed Company. Thank you for sending us your elaborate autobiography.

1. The position you have applied for requires vice, not virtue. Please note that we had not advertised for a Virtue President.
2. Your commitment to constant truth-telling is dangerous to our organization's self-image. We want someone to be very economical with truth.
3. Here we are, looking for a high testosterone, can-do, combat-ready, loud human saxophone, not a turn-the-other-cheek type.
4. We are a socially responsible company as a matter of policy and within permissible limits. We do smuggle some pesticides in our product but make up for advertising socially responsible messages on paid commercial channels.
5. You say that you live simply so that others may simply live. Unfortunately, we are in the complex lifestyles business. The more complex life gets, the more people buy our solutions.
6. By the way, what is this ahimsa thing? We are also firm believers in non-violence. We just out-talk, out-smart, out-sell and KILL all competition.
7. Our Company mission statement is inspired by one of the greatest leaders in human history who incidentally was born on the same day as yours: There is enough for a man's need, but not enough for his greed. As long as there is never enough, we will continue to grow in business.

We regret to inform you that we cannot offer you the job at the present time.
Should a revolution happen in the future, we shall consider!

Sincerely,
VP (Human Re-Engineering)

STEPS TO STOP YOUR HOME FROM COLLAPSING

Follow the Bye-Laws of the Housing Society
Structural Audit of the building must be done as (Bye-Law No. 77)
(1) For 15 to 30 years of age .... once in 5 years.
(2) For above 30 years of age ... once in 3 years.

Such structural audit shall be conducted by an engineer from the panel of the city municipal corporation. Outside municipal limits, by a government approved engineer. Matters pertaining to "Building's Structural Problems" may be forwarded to Brihanmumbai Mahanagarpalika (B. M. Corporation) under Bye-Law No. 175D(d). It is mandatory to appoint a competent structural consultant for physical examination and testing of the structure to identify weak spots/areas.

Building Collapses and Reasons
Each year several major collapses occur in Mumbai city resulting in number of fatal casualties besides critically injuring many more. The reasons enumerated are: unauthorized structural modifications, balcony converted into bedroom or toilet with bath tub or a rock garden (resulting in inter-flat effluent leakages), installation of large loft/terrace tanks, heavy iron grills fixed on balcony framework, or excavation done for basement around the vicinity of the building.

In some high-rise buildings, the duct or clothes drying area is levelled to extend the area of a living room or kitchen. Clothes are laundered by beating with a wooden washing paddle/bat (thaapi in Hindi, sotaa in Marathi) thus loosening the washroom tilework. Hydrochloric acid is employed as bathroom floor cleaner which attacks the cemented joints. Civil engineers view these activities are akin to "murdering the structure". Adjoining flats are combined by demolishing walls, beam and column. They aver "whereas surgeons perform bypass procedures", unqualified/unskilled "interior decorators", claiming to be architects, bypass the law.

Other reasons for structural deterioration are:
- Poor design, layout and detailing.
- Bad quality construction with substandard material (cement, sand, steel).
- Lack of regular maintenance.
- Aging effect manifested as rusted reinforcement steel rods and cracks in the ceiling or terrace.
- Indiscriminate additions and alterations which include removal of floor tiles by sledge- hammering, pneumatic drilling and such drastic violations of a destructive nature.
- Natural calamities as occurred recently due to heavy rains and floods, or earthquake.

In any housing society there are two types of individuals. Active Oriented and Excuse Oriented. The former exerts to protect the structure and the latter apologetic that they are unable to do so. A managing committee is often composed of both types. They are eligible for degrees as BA (Bachelor of Activology) & BE (Bachelor of Excusology).

The Supreme Court ruled (DNA India, Sept 7, 2008) that "only a housing society, not the municipal corporation, can allow owners to make changes in apartments". Oftentimes, the society management is defied "to do your worst" by members who go ahead without seeking clearance as laid down in Bye-Law No. 47(b). Yet in actual practice, it all depends on one's equation with the committee. In Sept 1997, the Maharashtra State Government warned that structural violations would be treated as a criminal offence and that civic officials would be liable to be prosecuted for inaction against violators. However, it was a case of "bark with no bite".

Declared Dangerous Buildings
The Government of Maharashtra said dilapidated buildings at risk of collapsing will be taken up for redevelopment through an act of legislation. These are C1 category structures which are classified as highly dangerous and must be vacated immediately. It was reported that 499 buildings are declared dangerous (DNA India, May 19, 2019; Mumbai Mirror, May 25, 2019). Some of them are illegal structures after a survey by BMC. Apart from Kurla, which held the 1st rank for many years, now Andheri, Ghatkopar, Jogeshwari, Mulund & Vileparle in the suburbs are vying for the dubious credit.

The main problem faced by BMC is the refusal of residents to vacate a dangerous building who accuse the civic body of acting at the behest of the builder's lobby. If they are offered alternative accommodation, it would be at a far distance from the place of work, say at Mankhurd-Deonar or Vasai-Virar belt. A home becomes dangerous if it is not repaired in time just as one's body needs preventive healthcare for self-preservation. Observe the motto: "If it's your home – structural safety first".

Hundreds Dead and Still Counting
Heavy rainfall in and around Mumbai often leads to old structures in the city getting destabilized leading to multiple collapses. According to data provided by an RTI spokesperson to BMC, 234 people died and 840 were injured in 2404 buildings falling during 2013-2018 (India TV News Desk, July 16, 2019). These numbers exceed those martyred at the border by an inimical neighbor and infiltrating extremists in attacks on our soldiers and civilians as per reports in the media.

Currently, buildings tilt dangerously developing cracks as a result of metro rail tunneling (Mumbai Mirror, November 11, 2019). Mumbaikars are asked to bear the pain for future gain. Mumbai is a 28,508/sq. km. densely populated island city on par with Dhaka (Bangladesh) at 28,410 people/sq. km. This puts the pressure on housing and other infrastructure facilities.

Housing Societies - Boon or Bane?
The co-operative movement in sugar and dairy industries has been a boon to the farmers. The middle class since about 60+ years has benefited from co-operative housing. But the bane of housing societies is mismanagement and bickering among members. The managing committee considers the society as a personal fiefdom. The Deputy Registrar of Co-operative Societies in charge of the Ward is a fossilized bureaucrat. A learned advocate practicing in the city Co-operative Courts had this to say: "Corruption begins when a proposal to register a housing society is presented. The concerned authority demands between Rs. 1000 and 5000 per member for the process. If one dares to refuse payment, numerous hurdles are created and the promoters are harassed. It might happen that the promoter is also in the bribery loop to earn his kickback. And, newly constructed 30 to 50 storey (or even more) skyscrapers with a few hundred residents are prey to these predators".

In every housing society there are members who withhold payments which include municipal property tax. This place the whole society in a vulnerable position vis-a-vis the civic body. Now, the BMC has woken up after two Rip van Winkle slumbers (equivalent to 40 years) at last implementing Section 209A of the Bombay Municipal Corporation Act, an insertion effected in the year 1975, to recover pro-rata taxes from individual flat-owners. Till recently, officials in the Assessor and Collector's department refused to act since according to these work shirkers "there is no such practice in our administration".
However, there are incidents where office-bearers are defaulters. Bye-Law No. 118(ii) stipulates that a defaulter member is ineligible to be elected to the managing committee. But this does not disqualify him if he/she defaults after getting elected in the absence of any specific provision. The course of action is either a 'No Confidence' motion passed at a special meeting of the Committee in the presence of the registering authority or a direct complaint made to his office. Members shy away to avoid such a confrontation as they do not wish to antagonize the Chairman / Secretary.

Suggested further reading
- Mismanagement in Housing Societies, Keemat, November 1996
  As member of a co-operative housing society, are you owner or tenant?
- The Act of Building a Home, Keemat, February 1997
  Apartment Ownership vs. Society Membership.
- Cementing the Bonds, Keemat, July-August 1997
  Substandard materials in construction and the consequences.
- 'A TO Z OF BUILDING REPAIRS' published by Gujarat Ambuja Cements Ltd. (Technical Services) Literature Series No. 54, July 2000.
  Answers various questions faced in building repairs.
- Building Repairs and Breaking Rules, Keemat, January 2001
  Healthy structures turn Humpty Dumpty.
- Democratic Tyranny, Keemat, April 2003.
  A bullying committee vs. a corrupt bureaucracy.
- Causes That Lead to RCC Building Repairs, Ambuja Technical Series No. 71, February 2002
  Irresponsibility in interior changes modifications and renovation.
- Housing Society – Responsibilities of Managing Committee, Keemat, November 2004
  Who should take care of the health and well-being of the society building?

Narendra G. Wagle, Past President & Life Member - CGSI

EGG AS FOOD - HEALTHY OR HARMFUL?

A 1980s popular ad jingle sponsored by the National Egg Co-ordination Committee (NECC) ran like this: "Sunday ho ya Monday, roz khao ande". Whether it's Sunday or Monday, eat egg every day. Celebrities promoting egg consumption included a wrestler as the epitome of strength, later joined by sports stars (cricket and recently badminton), also a singer-actor.

Marketed as 'the tastiest multivitamin capsule in the world', the promotion witnessed anti-campaigners stoking rebellion against newspaper ads that exhorted people to consume eggs. One print ad asked the readers to guess "the best square meal in oval shape". An egg a day, a great way to round off a square meal, was the tagline. Have you had an egg today? it questioned.

Composition of egg (sourced from technical literature)
Each egg is about 31 per cent yolk, 58 per cent white and 11 per cent shell, white + yolk is whole egg. (Approximate Composition.)

Egg	White	Yolk	Whole
% Water	88.1	48.8	74.6
% Solids	11.9	51.2	25.4
% Protein	10.1	16.4	12.1
% Lipids (total fats)	trace	32.9	11.2
% Carbohydrates (total)	1.1	1.0	1.1
% Free glucose	0.4	0.2	0.3
%Ash (minerals)	1.0	0.6	1.7
Cholesterol (in mg %)	Nil	1085	370

Note: Amount in 100 grams of egg component (as above). Weight of an egg 50-60 grams. All data are indicative mean average.

Health Benefits
Eggs are among the most nutritious foods, rich in vitamins including folate, proteins, choline, minerals (chiefly phosphorus and selenium with smaller amounts of calcium and zinc) and fats of which 25 to 30% are saturated. This statement and the following are purely scientific and directed in general to non-vegetarians and specifically to eggetarians and not intended to hurt the sentiments of those with contrary dietary views. Technically, it is argued that eggs are vegetarian, since they are not animal flesh (the meat, muscles or tissue of an animal). Some say that unfertilized eggs may be considered as vegetarian as no rooster has been involved in mating the hen which thus cannot bear chicks. Most commercially sold eggs are purely vegetarian, though derived from an animal, eggs may be vegetarian just as cow's milk or honey from bees.

Commercial classification of eggs is based on the manner in which the hens are reared. "Caged Eggs" come from hens who live their entire life in small wire cages, indoors. "Free Range Eggs" roam outdoors every day on open pasture. They enjoy unrestricted open space, fresh air, feed on greens and insects, and a place to rest. Organic pastured eggs are regarded as the healthiest. The color of chicken eggs may vary between pale brown and white, more eggs are white. The brown color is sometimes partly lost on boiling. The breed of the chicken determines eggshell color. Brown eggshells contain the pigment 'Protoporphyrin IX' said to be a by-product of hemoglobin which is a metabolic precursor of haeme and

chlorophyll. The nutritional value is irrespective of shell color, says an informative leaflet by U&V Agro Pvt. Ltd., Palladam (TN.).

Egg yolks range in color from pale yellow to deep orange. The color depends solely upon the hen's diet. The darker color of the yolk signals the presence of carotenoids which are natural pigments found in some plants. Beta-carotenes are vitamin A precursors that get converted to retinol (preformed vitamin A) in the gut.

Harmful effects

Eggs are high in cholesterol and may increase the risk of heart disease (ref: "Cholesterol and Its Role in Heart Disease", Keemat July-August, 2017). 'An egg a day does not lead to cardiovascular disease' (Harvard Health Letter, June 24, 2019). 'No more than three eggs per week is wise if you have diabetes, are at high risk for heart disease from other causes (such as smoking), or already have heart disease', it adds. The cholesterol is concentrated in the yolk. For this reason, many people choose to eat only egg white (albumen). Albumen is ascribed a medicinal value capable of lowering oedema or excess of watery fluid collecting in the body tissues particularly the feet. But the yolk holds the majority of an egg's nutrient package. Allergic reactions against egg white are more common than egg yolk. Eggs allergy appears mainly in children but can persist into adulthood. It could be the second most food allergy in children after cow's milk. (Keemat, Nov-Dec, 2019).

Even the fragile 'Humpty Dumpty' egg is guilty as a disease vector. Poultry are frequent carriers of Salmonella (paratyphoid and food-infection organisms). As soon as an egg is laid, the outer surface becomes contaminated. This is aggravated by the insanitary conditions which prevail in small-scale poultry sheds across the country where eggs are laid in damp, mud-and-faeces-fouled straw nests and collected perhaps once a day (or every two or three days!). In modern disinfected poultry farms the eggs are laid by healthy hens on clean wire frames and automatically collected immediately, contamination is at a minimum. The keeping quality of such eggs (and of commercial egg products derived from them, such as mayonnaise made with raw eggs), is clearly superior. Surface microorganisms are prevented from entering the egg for some days largely by the dried, mucilaginous coat on the cuticle, a sort of natural varnish. Molds and some bacteria can grow on the outer coating if eggs are stored in humid atmospheres (above 70 per cent RH) at ordinary ambient temperatures. The microbes eventually penetrate the shell and infect the interior. These give the eggs "off" odors and offensive tastes. The micro-flora of stale or bad eggs is largely of fecal and soil origin. Hydrogen sulphide or H2S is the gas that has foul odor smelling like rotten eggs.

Egg-citing Story of Cruelty(?)

Egg production in India is 90 billion annually or 70 eggs per person (India times, May 5, 2018) projected to touch 100 billion soon. National Institute of Nutrition prescribes consumption of 180 eggs a year for an individual {Press Information Bureau (GoI) release on "World Egg Day 2016"}. Poultry farms are in reality regimented 'factories', form of animal husbandry, raising domesticated birds to produce meat and eggs for food. More than 60 billion chicks are killed for consumption annually. (Global Statistics published in in Faunalytics USA, October 10, 2018). A "slaughter" condemned by animal rights activists worldwide.

Tailpiece

Eggs are an egg-cellent source of humor. If you want to learn more about eggs, go to the hen-cyclopedia. Particularly if you have a medical eggs-am and are an egg-head. Finally, love and eggs are best when they are fresh. But don't be a henpecked husband.

Conclusion

Dogma and Doctrine influence Diets. Latin writer, Lucretius, wrote in the 1st century BC, "One man's meat is another man's poison". Thus, goes the prayer: "Bless the food before us, the family beside us and the love between us". The Marathi equivalent is "anna he purnabramha" because food sustains life hence purnabramha. Mahatma Gandhi averred: "To the hungry, God appears in the form of bread. Which is the eternal truth.

Narendra G. Wagle, Past President & Life Member (CGSI)

Has the future arrived? See Future Predictions given below by Robert M. Goldman MD, PhD, DO, FAASP, (www.DrBobGoldman.com) World Chairman - International Medical Commission. These predictions were made in 2016 or earlier.

Rashmi Shah and Niranjan Kamdar Email: ngkamdar@gmail.com

FUTURE PREDICTIONS

In 1998, Kodak had 170,000 employees and sold 85% of all photo paper worldwide. Within just a few years, their business model disappeared and they went bankrupt. What happened to Kodak will happen in a lot of industries in the next 10 years - and most people don't see it coming. Did you think in 1998 that 3 years later you would never take pictures on paper film again? Yet digital cameras were invented in 1975. The first ones only had 10,000 pixels, but followed Moore's law. So as with all exponential technologies, it was a disappointment for a long time, before it became superior and got mainstream in only a few short years. It will now happen with Artificial Intelligence, health, autonomous and electric cars, education, 3D printing, agriculture and jobs. Welcome to the 4th Industrial Revolution. Welcome to the Exponential Age.

Software will disrupt most traditional industries in the next 5-10 years. Uber is just a software tool, they don't own any cars, and are now the biggest taxi company in the world. Airbnb is the biggest hotel company now, in the world and they don't own any properties.

Artificial Intelligence: Computers become exponentially better in understanding the world. This year, a computer beat the best Go player in the world, 10 years earlier than expected. In the US, young lawyers already don't get jobs. Because of IBM Watson, you can get legal advice (so far for more or less basic stuff) within seconds, with 90% accuracy compared with 70% accuracy when done by humans. So, if you study law, stop immediately. There will be 90% fewer lawyers in the future, only specialists will remain. Watson already helps nurses diagnosing cancer, 4 time more accurate than human nurses. Facebook now has a pattern recognition software that can recognize faces better than humans. By 2030, computers will become more intelligent than humans.

Autonomous Cars: In 2018 the first self-driving cars will appear for the public. Around 2020, the complete industry will start to be disrupted. You don't want to own a car anymore. You will call a car with your phone; it will show up at your location and drive you to your destination. You will not need to park it; you only pay for the driven distance and can be productive while driving. Our kids will never get a driver's license and will never own a car. It will change the cities, because we will need 90-95% fewer cars for that. We can transform former parking space into parks. 1.2 million people die each year in car accidents worldwide. We now have one accident every 100,000 km, with autonomous driving that will drop to one accident in 10 million km. That will save a million lives each year.

Most car companies may become bankrupt. Traditional car companies try the evolutionary approach and just build a better car, while tech companies (Tesla, Apple, Google) will do the revolutionary approach and build a computer on wheels. I spoke to a lot of engineers from Volkswagen and Audi; they are completely terrified of Tesla.

Insurance Companies will have massive trouble because without accidents, the insurance will become 100x cheaper. Their car insurance business model will disappear.

Real estate will change, as if you can work while you commute, people will move further to live in a more beautiful neighborhood.

Electric cars won't become mainstream until 2020. Cities will be less noisy because all cars will run on electric. Electricity will become incredibly cheap and clean: Solar production has been on an exponential curve for 30 years, but you can only now see the impact. Last year, more solar energy was installed worldwide than fossil. The price for solar will drop so much that all coal companies will be out of business by 2025. With cheap electricity comes cheap and abundant water. Desalination now only needs 2kWh per cubic meter. We don't have scarce water in most places, we only have scarce drinking water. Imagine what will be possible if anyone can have as much clean water as he wants, for nearly no cost.

Health: There will be companies that will build a medical device (called the "Tricorder" from Star Trek) that works with your phone, which takes your retina scan, your blood sample and you breathe into it. It then analyses 54 biomarkers that will identify nearly any disease. It will be cheap, so in a few years everyone on this planet will have access to world class medicine, nearly for free.

3D printing: The price of the cheapest 3D printer came down from $18,000 to $400 within 10 years. In the same time, it became 100 times faster. All major shoe companies started 3D printing shoes. Spare airplane parts are already 3D printed in remote airports. The space station now has a printer that eliminates the need for the large number of spare parts they used to have in the past. At the end of this year, new smart phones will have 3D scanning possibilities. You can then 3D scan your feet and print your perfect shoe at home. In China, they already 3D printed a complete 6-storey office building. By 2027, 10% of everything that's being produced will be 3D printed.

Business Opportunities: If you think of a niche you want to go in, ask yourself: "in the future, do you think we will have that?" and if the answer is yes, how can you make that happen sooner? If it doesn't work with your phone, forget the idea. And any idea designed for success in the 20th century is doomed in to failure in the 21st century.

Work: 70-80% of jobs will disappear in the next 20 years. There will be a lot of new jobs, but it is not clear if there will be enough new jobs in such a small time.

Agriculture: There will be a $100 agricultural robot in the future. Farmers in 3rd world countries can then become managers of their field instead of working all days on their fields. Agroponics will need much less water. The first Petri dish produced veal is now available and will be cheaper than cow-produced veal in 2018. Right now, 30% of all agricultural surfaces is used for cows. Imagine if we don't need that space anymore. There are several startups that will bring insect protein to the market shortly. It contains more protein than meat. It will be labeled as "alternative protein source" (as most people still reject the idea of eating insects)

There is an app called "moodies" which can already tell in which mood you are. Until 2020 there will be apps that can tell by your facial expressions if you are lying. Imagine a political debate where it's being displayed when they are telling the truth and when not. Bitcoin will become mainstream this year and might even become the default reserve currency.

Longevity: Right now, the average life span increases by 3 months per year. Four years ago, the life span used to be 79 years, now it's 80 years. The increase itself is increasing and by 2036, there will be more than one-year increase per year. So, we all might live for a long long time, probably more than 100.

Education: The cheapest smart phones are already at $10 in Africa and Asia. Until 2020, 70% of all humans will own a smart phone, meaning everyone has the same access to world class education.

Robert M. Goldman MD, PhD, DO, FAASP,
The World Chairman – International Medical Commission

We are from an Organization called SHARAN (Sanctuary for Health and Re-connection to Animals and Nature), founded by Dr. Nandita Shah.

Dr. Shah, is an author of the book 'Reversing Diabetes in 21 days' published by Penguin India. She is also the recipient of the prestigious Nari Shakti Award 2016 from the President of India for her work in the field of health and nutrition.

In reference to the article 'Milk for Life' (Sept-Oct 2019). We offer a contrarian view to some of the points given. We in India have all been brought up to believe that milk is the best food for humans, but recent research has shown otherwise.

Our view is attached herewith for your reference. It would be our pleasure to engage further with your esteemed publication on various matters related to health and environment and we will be pleased to contribute in form of articles, interviews, etc. on the subject. Looking forward to being in touch. Best Regards,

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We offer a contrarian view to some of the points given.

1) **Milk is the only food that is considered nature's almost perfect food**
   a. Milk is certainly nature's perfect food and it's natural for an infant to drink milk produced by its mother. It is however very unnatural for one specie to drink milk of another specie. No animal in nature drinks milk of another species, except human. Every mammal's milk is of a different composition, suited to its offspring's needs. Animal milk is best suited for animal babies, not necessarily for human babies, children or adults.

2) **It is considered to possess almost all nutritional factors viz. fat, protein, carbohydrates, vitamins and minerals**
   a. All protein, including all essential amino acids, originate from plants, even animal protein comes from plants that animals eat. Animals are just the middlemen. Studies have shown that animals consume 6 times more protein from various sources including plants than they produce.
   b. Animal products have protein packaged with inflammatory molecules like Neu5GC, endotoxins and heme iron. Animal products change the microbiome, the bacteria that live in our gut and the bacteria species that have shown to cause inflammation overgrow and produce inflammatory mediators
   c. Carbohydrates obtained from plant foods, compared to dairy and other animal foods tend to reduce cortisol levels substantially

d. Vitamins such as B12 are not made by animals and milk is not a source for B12. B12 is made by bacteria present in the dirt found from plants and bacteria in the water.

3) Milk is a powerful source of calcium, phosphorous, etc needed for strong bones and preventing osteoporosis

a. There have been various researches proving the contrary. People that drink milk have a higher rate of hip fractures and osteoporosis.

b. The acidic properties of milk or any high proteins actually leach calcium from the bones to neutralize, thus weakening the bones.

4) Milk contains conjugated linoleic acid (CLA), known to have anti carcinogenic properties

a. Drinking milk can increase the estrogen levels substantially which can have a substantial impact on our hormone levels, increasing the risk of cancer

b. Milk boosts the level of IGF-1 in our body. IGF-1 is a growth factor and it increases the risk of cancer related to hormones, such as breast, prostate, ovarian, etc.

c. Caesin (milk protein) is a powerful carcinogen

5) Milk sugar (lactose) and its derivatives are excellent therapeutic agents

a. Most people in the world are lactose intolerant. Post infancy, our bodies don't create the enzyme to digest milk.

b. As much as 95% of Asians are lactose intolerant

c. Problems with dairy consumption include eczema, acne, constipation, acid reflux, iron deficiency, anemia, etc.

6) Consumption of milk may protect against incidence of developing Type 2 diabetes

a. Major cause of Type 2 diabetes is fat and 49% of calories from whole milk come from fat. Milk products such as cheese, paneer, pedas, etc. contain even more fat, going up to 70% fat. Type 2 diabetes occurs when fat in the muscle cells rises and the cells become insulin resistant.

b. Cow's milk is a foreign protein in our body and it stimulates antibody production against them this may lead to these antibodies destroying our own pancreatic cells, increasing the risk of type 1 diabetes

c. IGF in milk causes insulin resistance and therefore dairy is a major cause of diabetes

d. India has the 2nd largest diabetes population in the world despite liberal consumption of milk

e. Solomon Islands where children do not drink milk at all, there is essentially no childhood diabetes, whereas in Finland, which has the highest per capita milk consumption, type 1 diabetes is the highest in the world

7) Milk is a rich source of high-quality protein that can support muscle growth and repair

a. Milk is a 2nd hand source of protein. All the essential amino acids that our bodies cannot produce are present in plants

b. Plant protein aids endothelial function and increases blood flow, helping in muscle growth and repair. In contrast, animal-based protein (milk protein) impairs blood flow and endothelium function.

c. Animal based protein also causes inflammation in the arteries and that reduces the blood flow in muscles and joints, hampering muscle growth and recovery

8) Milk for cardiovascular health

a. Milk and meat have the same properties – high protein, high fat and no fiber which is why vegetarians and non-vegetarians get the same diseases.

b. Coronary artery heart disease is very common in the western civilization, mainly because of the food they eat which includes, dairy and other animal-based products. Consumption of animal products leads to formation of plaques in the coronary arteries. Plaque doesn't just limit the function of arteries; it can also block the blood flow.

9) Milk is economy

a. Dairy industry is huge but the kind of damage it is doing to the environment is enormous. Here are some of the facts:

i. Almost 3/4th of all the agriculture land in the world is used for livestock production, including cattle for dairy

ii. Animals consume 6 times more protein than they produce. They are just the middlemen

iii. 25% of the rivers are not reaching the ocean because we are taking so much water to produce animal feed

iv. Livestock is responsible for 15% of global man-made emissions. This is the same as all the emissions of all forms of transport, such as trains, planes, ships, cars, trucks, etc.

Consumers can now get food tested through consumer organizations

Network of consumer organizations for food and nutrition (NetCOFaN) created

In order to earn consumer trust, country's food regulator has decided to get food testing done through the consumer organizations. Food safety law provides for reimbursement of testing fees if a consumer sample fails. This provision has however never been used due to some practical difficulties. With a view to address these difficulties, FSSAI has now decided to authorize credible voluntary consumer organizations (VCOs) to assist consumers in getting such tests done. Reimbursement of testing fees in such cases will be done even if the consumer sample does not fail.

This decision was taken by the Food Safety and Standards Authority of India (FSSAI) in a workshop at New Delhi with representatives of over eighty (80) voluntary consumer organizations (VCOs). The VCOs decided to create a nation-wide network of consumer organizations for food safety and nutrition (NetCOFaN) with the support of FSSAI.

This network will initially work in three specific areas, namely – 1) awareness and training, 2) mobilization of small/petty food businesses for various schemes, and 3) food testing and surveillance.

FSSAI has large volume of high-quality content on food safety and nutrition. The VCOs with their ground level connect will use this content for awareness and training programs by translating and adapting it to the local conditions. On-ground presence of VCOs will help reach the messages to local areas across the country. Support of VCOs will also be taken to mobilize small and petty food businesses to participate in hygiene rating, cluster certification and food safety training and certification (FoSTaC) programs. VCOs will be provided 'Food Safety Magic Box' that has over 100 simple do-it-yourself tests for common adulterants and kit for testing in midday meal scheme. Supported by the FSSAI, VCOs can play an important role in food testing and surveillance activities.

Vegetarianism – The Scientific & Spiritual Basis (Part I)

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"The bountiful earth offers you an abundance of pure food and provides for meals obtainable without slaughter and bloodshed."

- Pythagoras[1]

"The soul is the same thing in all living creatures, although the body of each is different."

- Hippocrates[2]

While the vegetarianism in India is as old as the ancient religions of India viz. Hinduism, Jainism and Buddhism, it will be of interest to learn that even in ancient Greece, it was preached and practiced by such great

[1] **Pythagoras** (585 B.C. – 495 B.C.). While most of us have known him because of his famous 'Pythagoras' Theorem in geometry, very few of us are aware of the manifold achievements of this one of the most remarkable persons in the history of mankind. Besides being a great mathematician, he was also a great philosopher and had a lot of political influence and large following. **He preached the sanctity of all life and was among the earliest vegetarians in western hemisphere.** He is also considered as the forerunner of dieticians and was the first to advocate the exact measurements of food and drink. It is quite a coincidence that this great scientist was a near contemporary of great spiritual master Lord Mahavir who also preached sanctity of all life (see page 36).

1 Hippocrates, the famous Greek physician, considered as the father of medicine. (460 B.C.-377 B.C.) His fame through the ages rests almost as mkuch on his moral stature as on his scientific genius. While there has been tremendous progress in the field of dietics since World War I, it had its roots since the very dawn of medical science and Hippocrates made much of treating disease through diet and many of his speculations proved to be sound (Even today, upon graduation, all medicos take oath of Hippocrates). **It is quite likely that apart from ethical / spiritual aspects, it was also their knowledge of nutritional value of plant food which convinced Hyppocrates, Pythagoras and other Greeks to adopt vegetarianism.**

In theory, the word vegetarianism means abstaining entirely from flesh food including meat of any animals or birds and fish: whereas in practice there are several different variations of the vegetarian diet e.g. lacto-ovo vegetarians do not eat meat of any animals or birds or fish as such a diet involves the killing of the animals but they include in their diet plant foods, all dairy products and eggs. There are lacto-vegetarians who exclude all animal products including eggs but include dairy products. Although eggs commonly available from the poultry farms do not carry any live embryos, the reason to exclude eggs is mainly the cruelty and torture inflicted on hens in normal poultry farming.

There are also vegetarians known as vegans who follow a diet mainly of plant-based foods and do not even consume milk products. This would include curds, butter, cheese, ghee (popularly called butter oil in western countries), sweets and ice-creams made from milk. The reason for omitting the milk and milk products is mainly the cruel treatment meted out to the cows in most dairy farms. It is a common practice to inject hormones in cows to stimulate and increase milk supply and young calves are also deprived of mother's milk. Some of the vegetarians even do not eat honey as many bees are killed in the process of forced procreation to maintain the beehive and the sustained production of honey.

Many vegetarians also shun the use of fur, leather, wool or silk. Their concern is that many living animals, birds and insects are killed or suffer for the manufacture of these products. There are four distinct arguments each of them convincing by itself in favor of vegetarianism viz., (1) Physiological (2) Health (3) Economic/Environmental and (4) Ethical/Spiritual/Religious. In fact, many non-vegetarians have switched over to vegetarian diet after having learned about these facts.

PHYSIOLOGICAL ASPECT

How humans are physically created to be vegetarians?

The most logical argument in this regard is that our nearest ancestors the monkeys including the anthropoid apes who genetically resemble us so much are vegetarians. The prominent Swedish scientist Karl von Linnenne states, "Man's structure, external and internal, compared with that of the other animals, shows that fruit and succulent vegetables constitute his natural food". From the comparison shown below (Ref: Based on a chart by A. D. Andrews, Fit Food for Men, (Chicago: American Hygiene Society, 1970), it is clear that physiologically we are close to herbivores than carnivores.

Carnivorous	Herbivorous / Humans
1. Have claws	1. No claws
2. Have no skin pores and perspire through the tongue.	2. Perspire through skin pores
3. Have sharp front teeth for tearing, with no flat molar teeth for grinding. They can move their jaws only up and down.	3. No sharp front teeth but flat rear molars for grinding. They can move their jaws sideways as well as up and down.
4. Have intestinal tract that is only 3 times their body length so that rapidly decaying meat can pass through quickly without decaying and producing any toxic effects. The toxins can overload the kidneys and lead to gout arthritis, rheumatism and even cancer	4. Have intestinal tract 6-12 times their body length since plant foods decay more slowly than meat, the larger intestines are suitable for plant foods. This would also mean that meat and sea food would cling to the walls of the intestinal track much longer than normal period of 4 hours after which it starts putrefying
5. Have strong hydrochloric acid in stomach to digest meat.	5. Have stomach acid that is 20 times weaker than that of a meat-eater.
6. Salivary glands in mouth not needed to pre-digest grains and fruits.	6. Well-developed salivary, which are necessary to pre-digest grains & fruits.
7. Saliva acidic with no enzyme ptyalin to predigest grains.	7. Saliva alkaline with ptyalin to predigest grains. The alkaline saliva does not act properly on meat.
8. They lap up water with their tongues.	8. They drink water by sucking it with their lips.

Another logical argument in favor of the proposition that the humans are not meant to eat meat is the fact that all omnivorous and carnivorous animals eat their meat raw. When a lion kills an herbivore for food, it tears right into the stomach area to eat the organs that are filled with blood (nutrients). While eating the stomach, liver, intestine, etc., the lion laps the blood in the process of eating the dead animal's flesh. Even bears that are omnivores eat salmon raw. However, eating raw or bloody meat disgusts us as humans. Therefore, we cook it and season it to buffer the taste of flesh. However, in sharp contrast, a carnivorous animal will not eat flesh if it is cooked. Even circus lions have to be fed raw meat so that they will not starve to death. If humans were truly meant to eat meat, then

like animals we would have preferred to eat all our meat raw and bloody. The thought of eating such raw meat makes one's stomach turn sick as it is nauseating to the eater.

HEALTH ASPECT

(a) Scientific information about food

The function of food is to build up the tissues of the body and keep them in good repair, to yield energy in the form of heat, to keep the body warm and to create strength to enable it to do its work. A diet to accomplish all this must contain the necessary nutrients, water, nitrogenous proteids (classified as protein), fats, carbohydrates (sugar, starch, cellulose, etc.), minerals, vitamins and fibers.

Till a few years ago, it was generally believed that the non-vegetarian diet provides more strength because of its high protein contents and vegetarians are weak and fragile. However, the research and studies have proved that if enough care is taken, the vegetarian diet also provides all the required nutrients including the protein whereas the non-vegetarian diet has a lot more risks and is also a lot more prone to disease. In fact, it is the health aspect which has seen more number of people in Western world turning to vegetarianism in twentieth century than the earlier period.

Calories: It is the unit of energy. For any work we do, we need energy derived from the food in the form of calories. For a person carrying out normal activities, the requirement is about 1500 – 1750 calories. Even if you do not carry any activity and sleep throughout the day and night you will require 800 calories per day to sustain yourself. Those engaged in physical activities like manual labor, the requirement could go up as high as 3000 calories /day.

Carbohydrates: Carbohydrates are the foods that give us energy for our daily activities. They also aid in the utilization of body fats. The energy value of 1 gm of carbohydrate is 4 calories.

Proteins: The proteins form the muscles of the body. They are the main constituents of the wall of each cell in the body. They are also the major components of the nerve cells. Insufficiency of protein results in stunted growth. One gram of Protein provides 4 calories of energy. The Recommended Dietary Allowance for protein is 0.8 grams a day per kilogram of body weight. Athletes may require more protein ranging between 1.0 to 1.5 gm/kg of body weight.

Fats: The fats form the energy storage of the body. Whenever there is an excess energy supplied to the body, it will get converted into fats and get stored inside the body. Excess fat storage creates extra burden on heart and other organs. 1 gm of Fat provides 9 calories.

Vitamins: Vitamins are protective food items required in small quantities. They protect the skin, eyes, bones, nerves and the heart. Inadequate vitamins in diet will lead to many diseases like blindness, bleeding gums, weak bones and degeneration of brain.

Minerals: Minerals (like Calcium, Potassium and Sodium) help in bone formation, give strength to the structure of the body, form major portion of Hemoglobin and the digestive enzymes which help in breaking the foodstuff (metabolism). About 4-6% of body weight is formed of minerals. The largest concentration is found in bones and teeth. Most of the minerals are present in natural fruits, vegetables and milk.

Fibers: Fibers help in relieving constipation and prevent the absorption of cholesterol thus preventing heart disease. Fibers are very important for reduction of weight and control of diabetes. They also add roughage which in turn aids digestion. Vegetarian diet consisting of raw and cooked vegetables, fresh fruits with skins provide sufficient fiber. Dietary fiber also helps in regulating blood pressure. As the non-vegetarian diet like meat, chicken lacks fiber it has to be supplemented by a vegetarian diet.

Water: Water does not have any calorific value but is the most important part of our food. It helps in excretion of toxins from the body through kidney and intestine, regulates temperature of the body and helps most in carrying oxygen to all the parts of the body. Approximately, 55 to 70% of body weight is water. The requirement depends on factors like environmental temperature, humidity, occupation and diet. In general, around 1.5 – 2 liters. of water per day is enough (apart from water obtained through food one eats).

Vegetarian diet: This mainly consist of (i) Cereals (ii) Vegetables (iii) Legumes (iv) Fruits, Nuts & Oil Seeds (v) Milk & Milk Products.

(i) **Cereals:** They are by far the most widely consumed plant foods of man. The major cereals are wheat, corn, rice, barley, rye, jowar and millet. One or more of the cereals is adapted to each type of climate that supports agriculture. Cereals are a principal source of carbohydrates, although they also contain proteins, fats, some vitamins and minerals.

(ii) **Vegetables:** Many green vegetables valued for their minerals and vitamins come from the mustard family – cabbage, lettuce, kale, broccoli, escarole, cauliflower, kohlrabi, Chinese cabbage, brussel sprouts, and watercress. Others are spinach, okra, globe artichoke and asparagus. Root vegetables include the potato, turnip, carrot, celeriac, rutabaga, cassava, taro, sweet potato, and yam. The "onion" family, most important for its flavoring, includes garlic, onion, leeks, shallots and chives.

(iii) **Legumes**: - In terms of protein food value, they match the animal flesh. In India where large majority of the population is vegetarian, lentils form the staple diet to provide required proteins. In China and the oriental countries, soybean and its products are widely eaten. In fact, soybean is the richest in food value among all the vegetables. In Mexico and other Latin American countries, the frijole (a variety of bean) is the staple food next to maize. The protein content of legumes varies while Bengal Gram has 17%, tofu (soybean) has as high as 43%. Indian diet has the choice of a variety of pulses which when taken in rotation besides providing the required protein also caters to a variety of different tastes. In fact, by eating legumes what vegetarians do not get is the excess protein of traditional non-vegetarian diet that leads to kidney overload and mineral deficiency diseases and high cholesterol found in flesh.

(iv) **Fruits, Nuts and Oil Seeds:** - As distinguished from vegetables, which are usually considered to be the edible nonfloral or vegetative growths of plants, fruits are, technically, the ripened ovaries of a flower. The edible portion of a fruit is usually the fleshy covering over the seeds. Some fruits, such as pumpkins, cucumbers, and tomatoes are eaten as vegetables and therefore are often considered as such. They do, in fact, closely resemble the vegetables in food value and other properties and are sometimes called fruit vegetables. Tree fruits may be divided into two groups : those from the so-called deciduous fruit trees that shed their leaves in the fall, such as the apple, pear, peach, plum, cherry and apricot; and those from trees that shed leaves in the spring but are considered evergreen, including the orange, grapefruit, lemon and other citrus fruits. Strawberries, blueberries, gooseberries, cranberries, currants, blackberries and raspberries are also important fruits, combining the virtues of high nutritional value and pleasing taste. Finally, melons and grapes must be included among the fruits widely consumed by man. A nut is a hard-shelled fruit. Cashewnuts, walnuts, almonds and pistachio nuts have high proteins and fat content. Oil Seeds such as groundnuts also contain high proteins and fat.

(v) **Milk and milk products**: They are utilized to produce varieties of food products such as cheese, paneer, sweets, ice-cream and various other desserts. Despite water content of 85% milk is one of the most varied and valuable sources of essential nutrients including protein, fat and minerals such as calcium.

Table of Nutritive values of Vegetarian Diet – Table continued in next page

(All the values are per 100 grams of edible portion)

Source: Food for Reversing heart disease by Dr. Bimal Chhajer (Cardiologist)

Food Stuff	Moisture (g)	Protein (g)	Fat (g)	Carbohyd (g)	Fiber (g)	Energy (Kcal)
Cereals						
Bajra	12.4	11.6	5.0	67.5	1.2	361
Barley (jau)	12.5	11.5	1.3	69.6	3.9	336
Jowar	11.9	10.4	1.9	72.6	1.6	3349
Maize (makai)	14.9	11.1	3.6	66.2	2.7	342
Rice	13.7	6.8	0.5	78.2	0.2	345
Wheat (whole)	12.8	12.1	1.7	69.4	1.9	341
Brown Bread	39.0	8.8	1.4	49.0	1.2	244
White Bread	39.0	7.8	0.7	51.9	0.2	245
Pulses						
Bengal gram whole	9.8	17.1	5.3	60.9	3.9	360
Black gram dal	10.9	24.0	1.4	59.6	0.9	347
Green gram (dal)	10.1	24.5	1.2	59.9	0.8	348
Red gram (masoor)	13.4	22.3	1.7	57.6	1.5	335
Lentil	12.4	25.1	0.7	59.0	0.7	343
Rajmah	12.0	22.9	1.3	60.6	4.8	346
Soyabean	8.1	43.2	19.5	20.9	3.7	432
Leafy Vegetables						
Cabbage	91.9	1.8	0.1	4.6	1.0	27
Lettuce	93.4	2.1	0.3	2.5	0.5	21
Spinach	92.1	2.0	0.7	2.9	0.6	26
Roots & Tubers						
Beet root	87.1	1.7	.1	8.8	0.9	43
Carrot	86.0	0.9	0.2	10.6	1.2	48
Onion	84.3	1.8	0.1	12.6	0.6	59
Potato	74.7	1.6	0.1	22.6	0.4	97
Sweet potato	68.5	1.2	0.3	28.2	0.8	120
Turnip	91.6	0.5	0.2	6.2	0.9	29
Garlic	62.0	6.3	0.1	29.8	0.8	145
Radish	94.4	0.7	0.1	3.4	0.8	120
Other Vegetables						
Brinjal	92.7	1.4	0.3	4.0	1.3	24
Cauliflower	90.8	2.6	0.4	4.0	1.2	30
French beans	91.4	1.7	0.1	4.5	1.8	26
Parwar	92.0	2.0	0.3	2.2	3.0	20
Pumpkin	92.6	1.4	0.1	4.6	0.7	25
Tinda	93.5	1.4	0.2	3.4	1.0	21
Lady's fingers	89.6	1.9	0.2	6.4	1.2	35
Tomato (green)	93.1	1.9	0.1	3.6	0.7	23

Cholesterol Content (mg) in 100 gm	
Meat & Its Products	
Yellow of eggs	420
Chicken (broiler)	60
Mutton (goat) (Medium fat/lean)	65
Liver	300
Kidney	150
Brain	250
Pork	70
Oysters	230-470
Shrimps	150
Crab	145
Pork ribs	105
Lamb	70
Animal fat	90
Milk & Milk Products	
Whole milk	11
Skimmed milk	2.4
Cream	100
Butter	240
Cheese	16
Plain ice cream	375

It will be observed that food value of non-vegetarian diet consists mainly of fat and protein. They do not contain fiber or carbohydrates.

Cholesterol: the main culprit

Cholesterol especially LDL i.e. Low Density Lipo-protein cholesterol is the so-called bad cholesterol and is considered the main culprit leading to blockages in arteries and heart and is the cause of heart attacks. It is recommended to maintain total cholesterol level up to 200 per ml. of blood. HDL cholesterol is the so called 'good' cholesterol. It has a high affinity to bind cholesterol and can remove cholesterol from the blockages. HDL cholesterol level in the blood should be maintained above 40. All kinds of meats including yellow of eggs are rich in cholesterol.

Beneficial effects of fruits & vegetables

1. Banana has high percentage of alkali salts (especially potassium which is good for health). Hence, it is especially valuable for production of quick energy. In India, it is the best value for money as a fruit.
2. Garlic is a classic example of a combination of food and folk medicines. It boosts immune response and increases resistance against various diseases. It also has antibacterial, antifungal and antithrombotic effects.
3. Lemon is an excellent source of vitamin C and contains some amount of calcium, phosphorus, potassium and carotene. It also is found to be an antiseptic. It can be easily used as a low-calorie salad dressing. Besides, lemon, all other citrus fruits viz. sweet-lime, orange and guava are also rich source of vitamin C.
4. Mushrooms are fungi rich in potassium, phosphorus, copper and iron. They are also a good source of vitamin B1 and B2. They are known to be beneficial in reducing blood fat levels, have antibiotic properties, antitumor activity and boost immune system action against disease producing microorganisms.
5. Onion, along with its culinary properties, helps prevent blood clot and heart attacks. It has also shown to lower high blood pressure and cholesterol levels.
6. Papaya is known for its ability to aid digestion. It contains enzymes that helps to digest proteins. Papaya is a rich source of beta-carotene and vitamin B & C.
7. Potato is a good source of vegetable protein, potassium, vitamin C, iron, phosphorus and enzymes. It relieves water retention and can sometimes be used to reduce hypertension and promote intestinal flora.
8. Pumpkin is a good source of beta-carotene, calcium, iron & some vitamin B. It helps to regulate blood sugar levels and is thus beneficial to hypoglycemics.
9. Spinach is an excellent source of iron, calcium, chlorophyll, beta-carotene, vitamin C, riboflavin, sodium and potassium. It also has a diuretic and laxative effect.
10. Sprouts are rich in chlorophyll, vitamin A, C, D, E, K, B complex and minerals such as calcium, phosphorus, potassium, magnesium and iron. They are diuretic, appetizers and detoxify the body.

It may be mentioned that

i. **Turmeric:** It also has unique antioxidant and anti-inflammatory properties. It retards age related diseases by preventing free radical damage, inhibits growth of cancer cells, protects liver from cholesterol level, alleviates joint swellings, reduces menstrual pain and has a beneficial effect in the treatment of AIDS.

ii. **Mustard:** Mustard is a popular culinary herb that stimulates the appetite and helps digestion.

iii. **Curd:** Nutritional benefit of curd is to reinforce the intestines with additional friendly bacteria promoting the growth of intestines flora.

(b) Advantages of a vegetarian diet

Vegetarian diets are lower in saturated fats, cholesterol, and animal protein. They are also high in folate, anti-oxidant vitamins like C and E, carotenoids, and phytochemicals. Overall, vegetarians have substantially reduced risks for obesity, heart disease, high blood pressure, diabetes mellitus, osteoporosis, and some forms of cancer-particularly lung cancer and colon cancer. Research has clearly established a link between meat eating and cancer of the colon, rectum, breasts, and uterus. Vegetarian diets that are low in saturated fats have been successfully used to reverse severe coronary artery disease. Those vegetarians who regularly take such vegetables have a good natural source of supply of calcium and therefore they suffer less from osteoporosis (a deficiency of calcium that leads to weak bones).

Food Stuff	Moisture (g)	Protein (g)	Fat (g)	Carbohyd (g)	Fiber (g)	Energy (Kcal)
Nuts & Oilseeds						
Almond	5.2	20.8	58.9	10.5	1.7	655
Cashewnut	5.9	21.2	46.9	22.3	1.3	596
Groundnut	3.0	25.3	40.1	26.1	3.1	567
Pistachio nut	5.6	19.8	53.5	16.2	2.1	626
Walnut	4.5	15.6	64.5	11.0	2.6	687
Coconut (dry)	4.3	6.8	62.3	18.4	66.6	662
Coconut (fresh)	36.3	4.5	41.6	13.0	3.6	444
Coconut (tender)	90.8	0.9	1.4	6.3	-	41
Coconut water	93.8	1.4	0.1	4.4	-	24
Fruits						
Apple	84.6	0.2	0.5	13.4	1.0	59
Apricot, fresh	85.3	1.0	0.3	11.6	1.1	53
Banana	70.1	1.2	0.3	27.2	0.4	116
Grapes	79.2	0.5	0.3	16.5	2.9	71
Lemon	85.0	1.0	0.9	11.1	1.7	57
Sweet-lime	88.4	0.8	0.3	9.3	0.5	43
Mango	81.0	0.6	0.4	16.9	0.7	74
Water melon	95.8	0.2	0.2	3.3	0.2	16
Pineapple	87.8	0.	0.1	10.8	0.5	46
Custard Apple	70.5	1.6	0.4	23.5	3.1	104
Figs	88.1	1.3	0.2	7.6	2.2	37
Plum	86.9	0.7	0.5	11.1	0.4	52
Dates, fresh	59.2	1.2	0.4	33.8	3.7	144
Lichi	84.1	1.1	0.2	13.6	0.5	61
Orange	87.6	0.7	0.2	10.9	0.3	48
Papaya	90.8	0.6	0.1	7.2	0.8	32
Peaches (aarhoo)	86.0	1.2	0.3	10.5	1.2	50
Pears (nashpati)	86.0	0.6	0.2	11.9	1.0	52
Strawberry	87.8	0.7	0.2	9.8	1.1	44
Tomato	94.0	0.9	0.2	3.6	0.8	20
Milk & Milk Products						
Milk, buffalo's	81.0	4.3	6.5	5.0	-	117
Milk, cow's	87.5	3.2	4.1	4.4	-	67
Curd (cow's milk)	89.1	3.1	4.0	3.0	-	60
Buttermilk	97.5	0.8	1.1	0.5	-	15
Fats & Oils						
Butter	19.0	-	-	81.0	-	729
Ghee/Oils	-	-	100.0	-	-	900
Sugar						
Sugar	0.4	0.1	-	99.4	-	398
Honey	20.6	0.3	-	79.5	-	319
Non – Vegetarian Food – Meat						
Beef	53.0	27.1	18.7	-	-	280
Pork	48.0	21.2	28.3	-	-	350
Lamb	54.0	25.9	18.7	-	-	280
Chicken	61.0	27.1	10.6	-	-	210
Eggs	74.0	13.0	12.0	1.0	-	165
Tuna	74.0	13.0	12.0	1.0	-	200

The International Conference on Vegetable Nutrition, a major conference on the subject held in 2002 at California has included some encouraging findings of the beneficial effects of vegetarian diet : that a predominantly vegetarian diet may have beneficial effects for kidney and nerve function in diabetics, as well as for weight loss; that eating more fruits and vegetables can slow, and perhaps reverse, age-related declines in brain function and in cognitive and motor performance – at least in rats; that vegetarian seniors have a lower death rate and use less medication than meat-eating seniors; that vegetarians have a healthier total intake of fats and cholesterol. (Ref: Should you be a vegetarian?' Time magazine – July 15, 2002.)

Studies have shown that vegetarians are healthier than meat eaters and vegetarians visit hospitals 22% less often than the meat-eaters and when they do visit, they trend to spend a similarly reduced time at the hospital. The vegetarians run lesser risk of contracting bacterial infections like salmonella, listeria, cambylobacer and E-coli. Ptomaine poisoning is a type of food poisoning which is a result of highly toxic substances due to putrefaction or metabolic decomposition of animal proteins.

As soon as an animal is slaughtered, its flesh begins to putrefy, and after several days it turns a sickly grey. The meat industry masks this discoloration by adding nitrites, nitrates, and other preservatives to give the meat a bright red color. But research has now shown that many of these preservatives are carcinogenic (cancer causing). Although these drugs will still be present in the meat when you eat it, the law does not require that they be listed on the package. Meats are frozen for long period of time. Some meats (especially poultry) are frozen up to 2 years. Cold temperatures do not kill all species of bacteria. Worse than this, as it is shipped and stored, meat frozen is thawed and refrozen many times. This is almost unavoidable.

The Mad Cow Disease in Britain was caused by consuming contaminated beef because the source of meat was from the cattle who were fed unnatural diet of meat. The Bird Flu was transmitted from infected chickens to humans due to which over a million chickens had to be destroyed in Hong Kong.

One study of 25000 Californians carried out over a 20-year period showed that meat consumption was associated with higher incidence of heart attacks in both men & women. This was mainly due to the high cholesterol and fat found in animal flesh. An elaborate statistical analysis has indicated that these effects were not due to differences in exercise habits between the vegetarians and non-vegetarians, nor were they due to differences in tobacco use, obesity or the consumption of other foods besides meat and poultry. The results suggest a close response relationship between meat consumption and heart disease: the more meat is eaten; the more is the incidence of the heart disease.

The American Dietetic Association has proclaimed that "appropriately planned vegetarian diets are healthful, are nutritionally adequate and provide health benefits in the prevention and treatment of certain diseases". (Ref: Time magazine, ibid). Plants, grains and legumes contain phytoestrogens that are believed to balance fluctuating hormones, so vegetarian women tend to go through menopause with fewer complaints of sleep problems, hot flashes, fatigue, mood swings, weight gain, depression and a diminished sex drive. In the 1970's in a number of studies were published in the Journal of the National Cancer Institute it has been reported that there is not a single population in the world with a high meat intake which does not have high rate of colon cancer.

(TO BE CONTINUED IN THE NEXT ISSUE OF KEEMAT)

Management of Hypertension in Chronic Kidney Disease

Report by Dr. K.S. Murthy

Hypertension and Chronic Kidney Disease CKD) are overlapping entities, closely associated with an intermingled cause and effect relationship. Blood pressure typically rises with decline in kidney function, and sustained elevations in BP hasten progression of kidney disease. Sri Shanmukhananda Jasubhai R. K. Shah Medical Centre featured Dr. Rushi Deshpande, Senior Consultant Nephrology, Jaslok Hospital, Saifee Hospital; Sir H. N. Hospital and Bhatia Hospital who spoke on "Management of Hypertension in Chronic Kidney Disease". His talk encompassed various procedures for hypertension and kidney diseases.

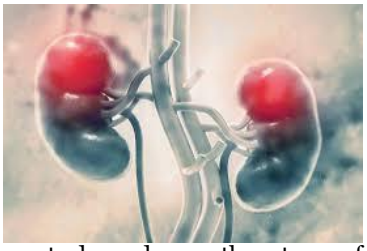
Primary Hypertension: Blood Pressure occurs in someone between 30 and 50 years of age with positive family history. Renal profile is done for new Hypertension labelled patient and differential BP norms is necessary. BP in both hands of new patient must be checked. BP is looked at for cardiac output problem or arterial resistance and treatment is based on this.

Secondary Hypertension: Almost 80% relates to kidney and a large proportion is renovascular in nature and smaller proportion is increasing renal disease or glomerulonephritis. Immunoglobulin A (IgA) is silent epidemic of our century and number of patients who turn out to be IgA have primary hypertension. MRI of abdomen reveals incidental adenoma, a noncancerous tumor in the adrenal. Common causes are endocrine cytomass, syndrome, hyper paralysis and investigate them if the patient is not falling in bandwidth of essential hypertension.

Renal parenchymal disease and Hypertension: Urine contains wealth of information. Look for Red blood cell (RBC) and protein. Renal hypertension and CKD are overlapping entities.

Renovascular hypertension caused by fibromuscular dysplasia: Hormones responsible for BP are coming from the kidney. Diagnosis – Gold Standard is doppler and others are functional studies.

Renovascular Hypertension: Happens when one eats much more salt than needed that kidneys can expel. Fibrovascular dysplasia is not uncommon particularly in young females (15-40 age group) which is treatable. Estimated Glomerular Filtration Rate (eGFR) is mandatory for all. Medical treatment of renovascular hypertension correctable by angioplasty or surgery. Renal angioplasty is successful for 100% of patients and cure of Hypertension in 60%. When hypertension is diagnosed for the first time, look for secondary causes and treat it if there is identifiable secondary cause. CKD is abnormality of kidney structure or function present for more than 3 months.



Patients with hypertension: CKD management depends on the stage of chronic disease and its etiology. Diabetic CKD is different from polycystic CKD. Classified based on etiology of disease, GFR category and amount of albuminuria. 10% of world's population is affected by CKD. As the GFR category worsens, protein urea worsens. Produce of CKD is associated with more protein.

Prognosis of CKD: In India CKD prevalence is 6-17%. Out of 100 patients of CKD, only 10 require dialysis because most of them die from cardiac problems or strokes. Complication of CKD is leading cause of morbidity. Managing CKD means managing vascular risk, which can be avoided. Uncontrollable hypertension will lead to kidney disease and almost every kidney disease patient will have hypertension. If it is hypertension causing kidney disease get BP down to a target level depending upon protein urea and non-protein vs. urea 130/80. 125/75. If it is primary kidney disease causing hypertension, get BP down to desired level and treat kidney disease for its etiology to avoid kidney disease. BP variability happens and treating BP alone would not treat kidney disease.

Hypertension a common cause, risk factor and Consequence of CKD: loss of nephrons and auto regulations, which is a revolutionary mechanism in humans given by god or nature to protect kidneys from the vagaries of fluctuating pressures. Renal auto regulations are protective mechanism. When there is structural kidney disease, it is lost besides drugs sometimes. If there is such loss the high pressure is directly transmitted to the glomerulus causing damage. If BP control is 1-10 and 1-9 in CKD care and the rest can be phosphorous and uric acid control. Patient with CKD has a BP of 130/80 or less, it is great deal. Worse the hypertension, worse CKD. Even smaller increase in pressure can lead to large decrements in GFR. Reverse is also true, reduce BP, results in improvement of eGFR. So, hypertension treatment is under control, kidney recovers and eGFR comes up.

CKD and hypertension: Salt and water retention. Salt restriction is mandatory for every patient with hypertension. Renal artery stenosis is an important cause of CKD. In many patients it is difficult to control BP, resistant hypertension because of drugs in full dose. It is difficult to treat diabetic patients with kidney disease and hypertension.

Dialysis patient and Hypertension: Difficult to control pressure and treatment is more dialysis; mostly about extra salt and water. Correct weight for them alleviates problem of high BP. Drugs to use like in any other patient depends and choose your drug e.g. cardiac, diabetic etc.

Take home message: When dealing with hypertension, have a watchful eye, investigation needs to be done to rule out secondary hypertension and cost effective when it comes to reverting hypertension and disease, salt rationale and restriction is important.

Diabetes plays a central role in treatment; multiple agents are frequently required when they are CKD and combination therapy. Targets of BP control are different in protein user and stricter vs. no protein user. Hypertension control is a single most important factor for controlling chronic diseases.

4% of food samples analyzed last year unsafe, FSSAI

Nearly 4% of the 1 lakh food and beverage samples analyzed by the States & UT's last year were unsafe, about 16% were sub-standard and 9% mis-labeled, shows data released by Food Safety & Standards Authority of India (FSSAI). It also includes cases launched, convictions and penalties during the year 2018-19 and trends shows that at 1,06,459, there was a 7% increase in the number of samples analyzed as compared to the previous year. Nearly 25% more samples were found non-conforming compared to the previous year and there was a 67% increase in the number of cases where penalties were imposed. Among criminal cases on defaulters, there has been 86% increase since the previous year, highlighting the fact that there has been an improvement in enforcement efforts by the states. "This would help support food safety authorities to take precise corrective and preventive action", said FSSAI in a statement.

THE FIVE LAWS OF HUMAN STUPIDITY

Economist Carlo M Cipolla has done some in-depth study into human stupidity. Let us look at Cipolla's five basic laws.

Law 1: Always and inevitably everyone underestimates the number of stupid individuals in circulation.

No matter how many idiots you suspect yourself surrounded by, Cipolla wrote, you are invariably lowballing the total.

This problem is compounded by biased assumptions that certain people are intelligent based on superficial factors like their job, education level, or other traits we believe to be exclusive of stupidity. They are not. Which takes us to:

Law 2: The probability that a certain person be stupid is independent of any other characteristic of that person.

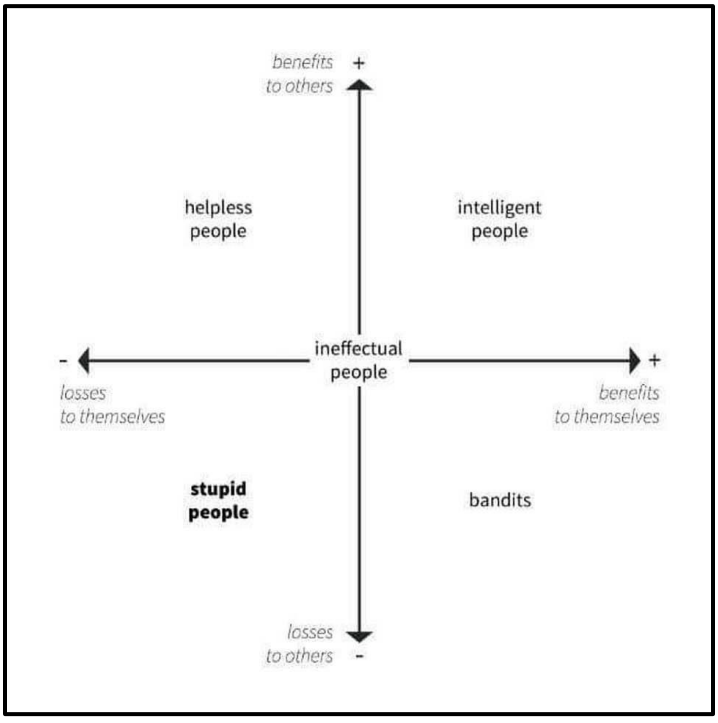
Cipolla posits stupidity is a variable that remains constant across all populations. Every category one can imagine—gender, race, nationality, education level, income—possesses a fixed percentage of stupid people. There are stupid college professors. There are stupid people at Davos and at the UN General Assembly. There are stupid people in every nation on earth. How numerous are the stupid amongst us? It is impossible to say. And any guess would almost certainly violate the first law, anyway.

Law 3. A stupid person is a person who causes losses to another person or to a group of persons while himself deriving no gain and even possibly incurring losses.

Cipolla called this one the Golden Law of stupidity. A stupid person, according to the economist, is one who causes problems for others without any clear benefit to himself.

The uncle unable to stop himself from posting fake news articles to Facebook? Stupid.

The customer service representative who keeps you on the phone for an hour, hangs up on you twice, and somehow still manages to screw up your account? Stupid.



This law also introduces three other phenotypes that Cipolla says co-exist alongside stupidity.

First there is the intelligent person, whose actions benefit both himself and others. Then there is the bandit, who benefits himself at others' expense and lastly there is the helpless person, whose actions enrich others at his own expense.

Cipolla imagines four types like shown in the 'Stupidity Graph'.

The non-stupid are a flawed and inconsistent bunch. Sometimes we act intelligently, sometimes we are selfish bandits, sometimes we act helplessly and are taken advantage of by others, and sometimes we are a bit of both. The stupid, in comparison, are paragons of consistency, acting always with unyielding idiocy.

However, consistent stupidity is the only consistent thing about the stupid. This is what makes stupid people so dangerous. Cipolla explains: Essentially stupid people are dangerous and damaging because reasonable people find it difficult to imagine and understand unreasonable behavior.

An intelligent person may understand the logic of a bandit. The bandit's actions follow a pattern of rationality: nasty rationality, if you like, but still rationality. The bandit wants a plus on his account. Since he is not intelligent enough to devise ways of obtaining the plus as well as providing you with a plus, he will produce his plus by causing a minus to appear on your account. All this is bad, but it is rational and if you are rational you can predict it.

You can foresee a bandit's actions, his nasty maneuvers and ugly aspirations and often can build up your defenses. With a stupid person all this is impossible as explained by the Third Basic Law.

A stupid creature will harass you for no reason, for no advantage, without any plan or scheme and at the most improbable times and places. You have no rational way of telling if and when and how and why the stupid creature attacks. When confronted with a stupid individual you are completely at his mercy. All of which leads us to:

Law 4: Non-stupid people always underestimate the damaging power of stupid individuals.

In particular non-stupid people constantly forget that at all times and places and under any circumstances to deal and/or associate with stupid people always turns out to be a costly mistake.
We underestimate the stupid, and we do so at our own peril. This brings us to the fifth and final law:

Law 5: A stupid person is the most dangerous type of person. And its corollary: A stupid person is more dangerous than a bandit.

We can do nothing about the stupid. The difference between societies that collapse under the weight of their stupid citizens and those who transcend them are the makeup of the non-stupid. Those progressing in spite of their stupidity possess a high proportion of people acting intelligently, those who counterbalance the stupid's losses by bringing about gains for themselves and their fellows. Declining societies have the same percentage of stupid people as successful ones. But they also have high percentages of helpless people and, Cipolla writes, "an alarming proliferation of the bandits with overtones of stupidity".

"Such change in the composition of the non-stupid population inevitably strengthens the destructive power of the [stupid] fraction and makes decline a certainty", Cipolla concludes, "And the country goes to Hell".

THE CHALLENGES OF TB ERADICATION IN INDIA

Aniruddha Nandi, Email: nandiviv@rediffmail.com

A young nation that we are, with aspirations to build a vibrant, healthy, resource rich country of yore, with an inclusive society enjoying a good quality of life, we have miles to go. The government has initiated many programs aimed at supplying the necessities to urban and rural population, including 'Swacchata', drinking water, proper nutrition, good education, necessary infrastructure etc. These agendas also include a strong desire to 'Eradicate TB from India by 2025' as announced by the government officials in international fora. Are we really on the track of meeting this goal? Have the incidences of new cases come down? Have we been able to tame the scourge of resistance development of the Mycobacterium to our arsenal of 'Antibiotics'? Have the number of deaths due to TB come down? Have we been able to plug the leakages in our system to ensure a directed delivery of healthcare at affordable costs? Can the Pundits in developed world really help us in this endeavor? We need to deeply introspect on the above and come up with honest, transparent and realistic answers to the above, then we might find a big divide that needs to be bridged and quickly try and meet the deadline of 2025.

The author, a medical researcher, with a deep understanding of human metabolism, has researched this for nearly 2 years, when requested by professionals in this field, to find a solution in the face of rising antibacterial resistance being developed by the Mycobacterium, giving rise to XDR, XXDR, MDR and TDR strains, hampering the reversal of this condition. The author has met state and central governmental authorities, heads of research institutions, brilliant medical professionals in this field, visited slums and hospitals across the country, developed specialized "Immunity based Integrative Therapy", in the laboratories of Spa Naturals and associated facilities, talked to knowledgeable people in this country, to arrive at the conclusion that, 'Antibiotics' alone is not the answer, the governmental budgets inadequate, that a massive collaborative effort by Government and Private medical entities, Research institutions, Academic institutions, will need to be mobilized immediately, to try and achieve the deadline of 2025. The author believes that we have enough talent in India, who understand the ground conditions best, to come up with a solution, that no foreign pundits can deliver. We lay down here below our thoughts on the subject and outline our protocol that needs to be executed through a PPP model, while detailing why the conventional treatment model cannot ensure desired results.

CHALLENGE I: Mycobacterium are resilient and intelligent organisms, with a history of survival in hostile environments, far longer than human history. They can counter any antibiotic pitched at them through various mechanisms, like building protective coatings to prevent ingress of antibiotics in diseased cells, throw out antibiotic molecules that do manage to enter the cells by EFFLUX, produce enzymes to deactivate antibiotics etc. This evolution is evident from the fact that Penicillin (the miracle molecule) remained effective for decades, before Mycobacterium developed resistance, with these cycles of resistance development shortening. Mycobacterium may have developed resistance to the miracle drug, Bedaquiline, already if reports are right in less than 2 years. The rising incidence of XDR/XXDR/MDR/TDR (Totally Drug Resistant) TB is a testimony to this phenomenon. Mycobacterium have understood the mechanism of action of antibiotics and can mutate quickly enough, to render them ineffective. My assertion is Antibiotics alone is not the answer.

CHALLENGE II: There are two forms of TB, Active and Latent. Latent TB is when we have them in the body but our strong immune system is able to keep them under control, while when the immune system is overpowered, it triggers the Active form which is infectious. Globally the incidence is around 33% of the population while in the city of Mumbai, it is minimum 80% and perhaps could be higher, an alarming situation. This points to the fact that body's innate immune system is the first line of defence against the Mycobacterium. Unfortunately, prolonged antibiotic treatment decimates the Gut Microbiota, which is responsible for 75-80% of the body's immunity. No doctor/hospital prescribes pre/probiotics concomitantly with the antibiotic treatment, to ensure damage control by restoration of the microbiota, or if they do their potency is low and the strains (Lactobacillus, Bifidobacterium, Subtilis etc.) included are sub optimal as most do not have the back up of proper prebiotics to hasten the growth of probiotics(which otherwise can take 1-2 years to repopulate).

CHALLENGE III: Since basic immunity is the key to counter Mycobacteria, it is imperative to address inflammation, nutrient deficiency, acidity etc. that impair the immune system and encourage pathogen survival. Treatment protocol should include powerful antioxidants, anti-inflammatories, macro/micro nutrients to shore up body's innate immune system. These have the additional advantage of increasing the efficacy of antibiotics, resulting in dosage reduction and reducing/eliminating the side effects of nausea, appetite loss etc. to ensure therapy compliance, which in turn will keep in check the incidence of resistance development and shortening of the treatment duration.

CHALLENGE IV: The current treatment focuses only on protracted antibiotic treatments in hospitals with the hope of reversing the condition, without any attempt on preventing the spawning of new cases of infection in the slums, which due to their faulty construction have poor sunlight penetration, limited air circulation, poor sanitary conditions. These undiagnosed and untreated patients travel from places like Govandi to town centers like Fort, in crowded buses and trains, to reach their place of work, infecting co-passengers in the process. How can we eliminate TB in this prevailing scenario?

CHALLENGE V: The current budget allocations for TB treatments, are grossly insufficient to include "Integrative Therapy" that can ensure TB eradication in the proposed timeframe. Rising incidence of infections among care givers, sometimes resulting in deaths, lead to understaffed facilities. The dietary allowance of Rs. 150/- per month is insufficient to ensure proper nutrition, to protect them from getting infected, by having a robust immune system.

CHALLENGE VI: Most of the elite, take an ostrich like approach by burying their head in the sand, "what we cannot see, does not exist". They believe that in their air-conditioned residences and offices and quarantined travel in private vehicles, they are safe from the disease. They overlook the fact that their watchmen, milkmen, vendors, maids/manservants, drivers (perhaps living in slums) could pass on the infection despite their sterile life style.

CHALLENGE VII: We live in a highly polluted world, with the air we breathe, the water we drink, the nutrient deficient and toxin filled food that we eat, all resulting in decimation of our body's innate immune system. The unchecked, uncontrolled use of un approved antibiotics used in poultry and livestock industry, enters the food chain and finally consumed by the population, leading to ever increasing antibiotic resistance (75% of antibiotics are targeted at the livestock/poultry industry and includes some unapproved molecules). We are racing towards "Antibiotic Apocalypse" when required antibiotics to protect our lives, say post-surgery, will become ineffective, threatening our very lives.

If we refuse to accept that there is a problem, there can be no solutions. Hence, we need to wake up and face the realities. This will help us in re-strategizing our approach and perhaps get us

closer to our timeline of 2025. We do not have the luxury of time and need to roll up our sleeves and get down to the job in hand.

The following measures can address this important issue.

1. Make, prescribing of high potency Probiotics enhanced with Prebiotics along with Antibiotic regimen, compulsory.
2. Adopt 'Integrative Therapy to address acidity, chronic inflammation, oxidative damage, all of which impact the immune system negatively. Use superfoods that supply all the key macro/micro nutrients to help build immunity, powerful antioxidants to counter oxidative damage, anti-inflammatories to control disease causing chronic inflammation, phytochemical based formulation that can help increase efficacy of antibiotic regimen while enabling lower dosages to reduce side effects, monitor diet being provided to patients which can greatly impact their recovery, as food being provided may be unpalatable or the nausea and vomiting prevent necessary nutrition intake.
3. Adopt fumigation and hand sanitization for care givers and patients besides the slum population. Antimicrobial that attracts and kills pathogens including Mycobacterium by lysis instantly, giving them no time to develop immunity could be used in crowded and closed places likes buses, trains, malls, cinema theatres and such other public places, including residences in slums. Hand wash to be used only once a day to give 24-hour protection till the next day, that also because the outer layer of skin exfoliates between 22-26 hours. The monitoring of this is possible with portable kits and suitable swabs. This needs to be deployed in rural areas to bring down gastro-intestinal diseases caused by unclean hands and contaminated walls of houses, under the 'Swattch Bharat' program.
4. Strengthen the mechanism of FSSAI to regulate and reduce the use of antibiotics for commercial gains, which is hastening the "Antibiotic Apocalypse". There is also the need to prevent sale of OTC antibiotic formulations and exhort medical fraternity to use Antibiotics sparingly (Patients are prescribed antibiotics for common cold, caused by viruses, where antibiotics have little or no role to play).
5. Encourage governmental health research bodies and/or academic research institutions like IITs to initiate research on "Bacteriophage" which could be worthy replacements to Antibiotics.
6. Sensitize Central and State regulatory authorities to ensure that SRA conforms with laws laid down for redevelopment where adequate and healthy residences are given to the slum dwellers instead of reaping commercial profits by selling off residential spaces. This is currently the norm and not an exception, which should be apparent to the authorities, when even a novice like me can detect such aberrations.

All this will need collaborative activity, of the Government, Corporates (CSR) and NGOs so that the government not only fulfills the assurances given to WHO but also improve the quality of human life.

सर्वेषामेव शौचानाम् अर्थशौचं परं स्मृतम् ।

योऽर्थे शुचिर्हि स शुचिर्न मृद्वारिशुचिः शुचिः ॥ - मनुस्मृतिः

Among all types of cleanliness, being clean in finance is the cleanest. The one who is clean in finance is the cleanest and not the one who is clean with respect to all other 9 forms of cleanliness that include body, clothes and so on –Manusmriti.

"A person who has abandoned all desires for self indulgence acts free from desire. Indifferent to properitorship and free from egotism, he attains peace." Bhagavad Gita - 2.71

FIND THE QUOTE

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CONSUMER GUIDANCE SOCIETY OF INDIA (CGSI)
The Societies Registration Act XXI of 1860: Ref. No. BOM 33/1966 GBBSD 04/04/1966
& The Bombay Public Trusts Act XXIX of 1950: Reg. No. F – 1381 (BOM) 20/05/1966
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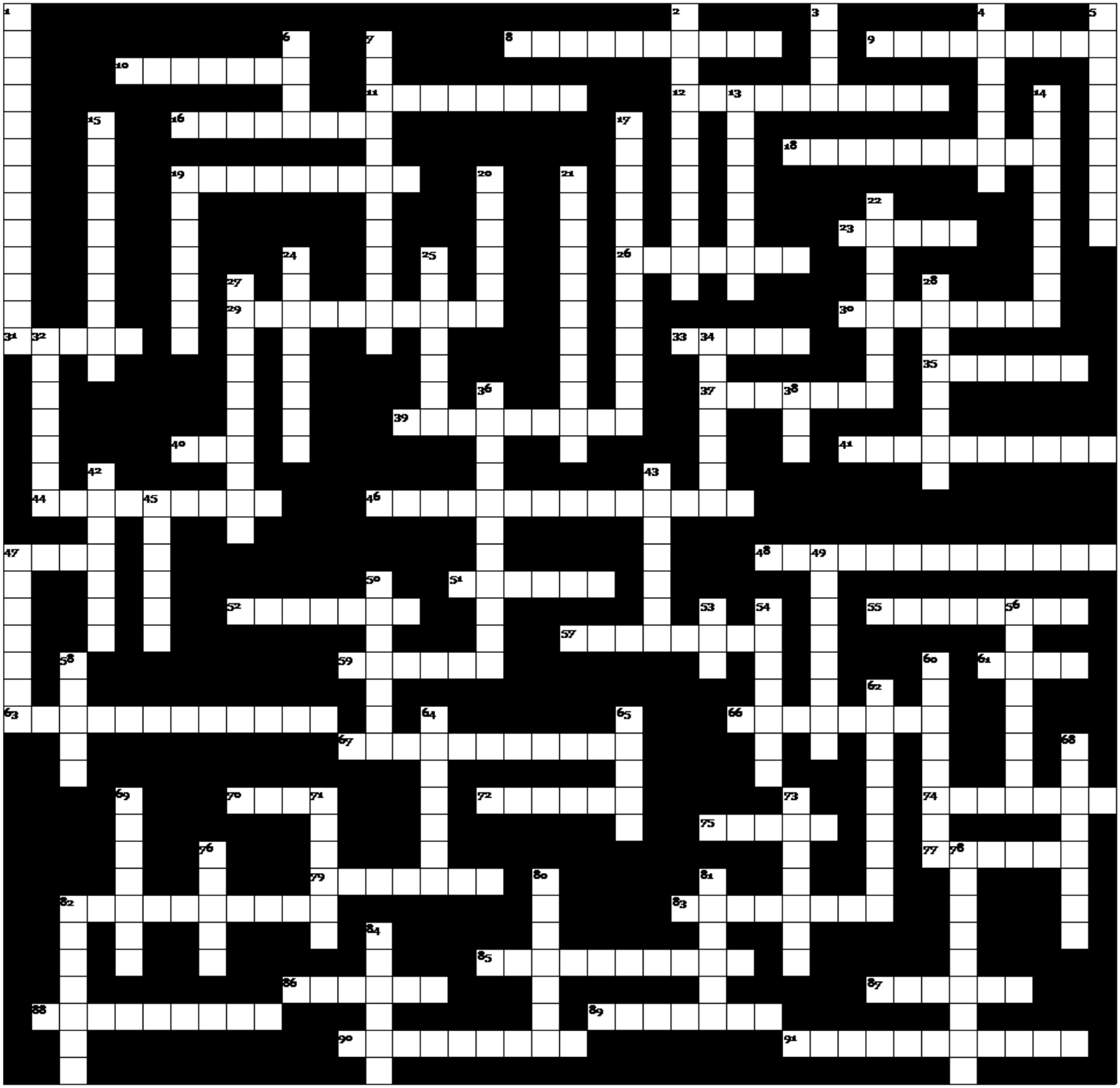
Consumer's Crossword! (Answers to the clues are present interspersed in the current Keemat itself)



ACROSS

8. Make angry. (10)
9. Nashpati (9)
10. Pin out & use. (7)
11. Name of a city. (8)
12. It is in body (10)
16. In pumpkins (8)
18. Citrus fruit. (10)
19. Characteristic. (9)
23. Contains Vit C. (5)
26. Decompose. (7)
29. Grow in water (10)
30. Energy (8)
31. Well to do. (5)
33. Priest? (5)
35. Is everywhere (6)
37. It detoxifies. (7)
39. Sheds leaves. (9)
40. NGO (3)
41. Miracle drug? (10)
44. Killing. (9)
46. Adjust hormonal balance (14)
47. It is good for gut bacteria (4)
48. Pay expenses. (13)
51. River in Delhi. (6)
52. Food from sea. (7)
55. Love hormone (8)
57. Toxin on animal protein decay. (8)
59. Female organ. (6)
61. Boils (4)
63. Love hormone enhances it. (12)
66. Vegetable (8)
67. Available drug (11)
70. Taxis. (4)
72. Vomiting (6)
74. Head in sand. (7)
75. Prevents clots. (5)
77. Family? (6)
79. Helps digestion. (7)
82. Causes disease. (10)
83. Sacred? (8)
85. Greek (10)
86. Turn-the-other-cheek-type. (6)
87. Has potassium. (6)
88. Fines. (9)
89. Vegetable (7)
90. Facts. (9)
91. It exists in 9 different forms. (11)

DOWN

1. Potential to replace antibiotics (13)
2. Treatment procedure. (11)
3. Storage space (4)
4. Tired (7)
5. Carbohydrates (9)
6. Promotes cancer (4)
7. Blood Pressure. (12)
13. Closed spaces. (8)
14. Cause diseases. (9)
15. Has Fat-protein (10)
17. Weaken Bones (12)
19. Chlorophyll rich. (7)
20. Flavor (6)
21. Bad Protein? (11)
22. Fruit type. (8)
24. Inhibits cancer cell growth. (8)
25. Bean. (7)
27. Causes Cancer. (10)
28. An antibiotic. (8)
32. Rich in protein. (7)
34. Avoid (7)
36. Philosopher (11)
38. Egg (3)
42. Self-serving. (7)
43. Hinders peace. (7)
45. A tuber (6)
47. Starches (7)
49. Enemy (8)
50. Amino Acids (7)
53. Very famous cigar lighter brand. (3)
54. Leafy vegetable. (7)
56. Fruit/Vegetable? (8)
58. Competing. (5)
60. Imparts flavor (8)
62. Compulsory (9)
64. Economist (7)
65. Regulator? (5)
68. Cold will not kill. (8)
69. Diagnosis type (7)
71. Bean type. (6)
73. Male (7)
76. Supernatural (5)
78. Making use of compressed air (9)
80. Sugar (7)
81. Digests proteins (6)
82. Treatment procedure. (7)
84. Bean like organ. (6)

Jokes are meant for amusement! It employs comedic vehicles like parody, satire and other material referencing, true people, organizations, regions, etc., making fun of them in ways that are obviously not true. Our intent is not to offend anyone! If you believe that jokes could offend you, please do not read them! Despite this warning, if on reading you find, the jokes not to your liking, ignore and move on! Please be aware that they are simply just **JOKES!**

LAUGHTER THE BEST MEDICINE

Army Recruit from the Australian outback sends a letter home:
Dear Mum & Dad,
I am well. Hope you are too. Tell me big brothers Doug and Phil that the Army is better than workin' on the farm - tell them to get in quick smart before the jobs are all gone! I wuz a bit slow in settling down at first, because ya don't hafta get outta bed until 6am. But I like sleeping in now, cuz all ya gotta do before brekky is make ya bed and shine ya boots and clean ya uniform. No cows to milk, no calves to feed, no feed to stack - nothin'!! Ya haz gotta shower though, but it's not so bad, coz there's lotsa hot water and even a light to see what ya doing!
At brekky ya get cereal, fruit, and eggs but there's no kangaroo steaks or possum stew like wot Mum makes. You don't get fed again until noon and by that time all the city boys are dead because we've been on a 'route march' - geez its only just like walking to the windmill in the back paddock!!
This one will kill me brothers Doug and Phil with laughter. I keep getting medals for shootin' - dunno why. The bullseye is as big as a possum's bum and it don't move and it's not firing back at ya like the Johnsons did when our big scrubber bull got into their prize cows before the Ekka show last year! All ya gotta do is make yourself comfortable and hit the target! You don't even load your own cartridges, they come in little boxes, and ya don't have to steady yourself against the rollbar of the roo shooting truck when you reload!
Sometimes ya gotta wrestle with the city boys and I gotta be real careful coz they break easy - it's not like fighting with Doug and Phil and Jack and Boori and Steve and Muzza all at once like we do at home after the muster.
Turns out I'm not a bad boxer either and it looks like I'm the best the platoon's got, and I've only been beaten by this one bloke from the Engineers - he's 6 foot 5 and 15 stone and three pick handles across the shoulders and as ya know I'm only 5 foot 7 and eight stone wringin' wet, but I fought him till the other blokes carried me off to the boozer. I can't complain about the Army - tell the boys to get in quick before word gets around how good it is.
Your loving daughter, Sheila.

The son of a Saudi mogul goes to study in Europe. One night, the phone rings at the house of his parents.
Dad: How's your life going, son?
Son: It's going well, dad.
Dad: Is something wrong? You don't sound happy.
Son: No Dad, everything's fine. Berlin is wonderful, the people are nice and I really like it here.
Dad: Son, tell me the truth. I know something's not right.
Son: Dad, I am a bit ashamed to drive to my college with my pure-gold Ferrari 599GTB when all my teachers and many fellow students travel by train.
Dad: My dear son, why didn't you say so earlier? I will send you 15 million euro this instant. Please stop embarrassing us and go and get yourself a train too.

One Italian brother sends to his American one a letter: "I am sorry to say that your cat strolling on the roof fell off, he did not survive."
The American brother sends a letter back, "You almost gave me a heart attack! You should have broken it up into multiple letters, not all in one go. The first letter should have said, 'The cat is strolling on the roof, but don't worry we'll get him'. The second letter should have said, 'The cat had fallen off the roof, but don't worry we'll save him'., and the third letter should have said, 'The cat sadly died this morning. There was nothing we could do.'
6 months later, the American brother gets another letter: "Grandma is strolling on the roof, but don't worry we'll get her".

What do you do if a blonde throws a pin at you? Run, she's got a grenade in her mouth!

A middle-aged Jewish man goes to his rabbi and says, "Rabbi, you gotta help me. It's my son. For 30 years he's a Jew, and now bam! He says he's a Christian!"
"Funny you should say that," the Rabbi says, "I'm having the same problem with my kid. Let's go see Rabbi Rabinowitz, the Elder.
So, they go see Rabbi Rabinowitz. "Both of our sons say they're Christians now," says the younger Rabbi.
"Funny you should say that," the elder Rabbi says. "My son, too! 30 years of being a Jew and now BAM! Let's go see Rabbi Spiegel, the eldest of all of us."
So, the three go see Rabbi Spiegel. "Rabbi, all of our sons are going around saying they're Christians!" the men complain.
"Funny you should say that," says Rabbi Spiegel. "My son, 30 years he's a Jew, and then bam! He's a Christian now." The rabbi gets serious. "The only thing we can do is take this straight to Jehovah."
The Rabbi prays, "Oh, mighty God, our sons have been good Jews for 30 years, now they're going around saying they're Christians!"
A voice booms down from heaven: "Funny you should say that…"

Wife in seductive voice, "Have you ever seen 20$ all crumpled up?"
"No," says her husband.
She gives him a sexy little smile, slowly reaches down into the cleavage and pulls out a crumpled 20$ bill.
Husband takes the crumpled 20$ smiling approvingly.
She then asks, "Have you ever seen 50$ all crumpled up?"
"Uh… no, I haven't," he says, with an anxious tone in his voice.
Giving a sexy little smile, she pulls a 50$ bill from under her skirt.
He takes the crumpled 50$ bill breathing quickly with anticipation.
"Now," she says, "have you ever seen 50,000$ all crumpled up?"
"No way!" he says obviously becoming very excited.
Wifey says nonchalantly, ... "Go look in the garage."

Two men pause their round of golf to smoke a cigar. One pulls out a matchbox while the other pulls the biggest lighter ever seen out of his golf bag and proceeds to light his cigar. The other man laughs and says "Holy moly, that's the biggest BIC lighter I've ever seen! It must be a foot long! That's hysterical. Where did you get it?!"
"Well," The first man sighs. "It's a long story."
"We have hours ahead of us," points out his golf companion.
"Alright, alright." Surrenders the first man.
"The thing is, I found a magic lamp while practicing the other day and the genie gave it to me to fulfil my wish."
The second man is skeptical and laughs. The first man pulls an old oil lamp out of his bag. Intrigued, the second man rubs it, and sure enough, a genie pops out and offers a wish. The second man doesn't think twice: "I want a million bucks!"
The Genie nods, snaps his fingers, then disappears into a wisp of smoke. For a few minutes… nothing. Then, suddenly, a rumble in the distance. The rumble gets louder and louder, when suddenly the skies darken and a flock of ducks flies over. There are hundreds, and thousands of them! For 10 minutes straight the sun is blocked out and everyone is holding their ears to protect from the sound of a million ducks quacking. Suddenly, as quickly as it started, it ends. The sound slows fades away as the last few straggling ducks flies over. The men look around at the carnage, duck poop everywhere, golfing gear lying scattered as other golfers ran for cover.
Astounded, the second man says "What the hell was that? I asked for a million bucks, not a million ducks!"
"Yea he's a bit hard of hearing." His friend sighs.

"Like to contribute something to the old folk's home, Sir?"
"Yes, actually", beams the old man. "Inge, dear, put your jacket on and quickly pack a suitcase!"

Customer: "Waiter, there's a dead beetle in my soup."
Waiter: "Yes sir, they are not very good swimmers."

Waiter to a group of old ladies having lunch, "Is ANYTHING OK?"

WHAT IS CARBON SEQUESTRATION?

Carbon dioxide is the most commonly produced greenhouse gas. Carbon sequestration is the process of capturing and storing atmospheric CO_2

WHY IS IT IMPORTANT TO CALCULATE IT?

Estimates of carbon stocks and stock changes in fruit orchards are necessary under the UN Framework Convention on Climate Change and the Kyoto Protocol.

WHAT ARE CARBON CREDITS?

Carbon credits are acquired through carbon accounting or greenhouse gas accounting, which enables quantification of CO_2 or greenhouse gas emissions by nations, states and individuals.

HOW CAN IT HELP INDIA?

India can claim carbon credits, from the offset of 285mt of carbon sequestered by mango orchards, during international trade negotiations.

EATING PAST 8 PM MAY NOT AFFECT WEIGHT GAIN IN KIDS

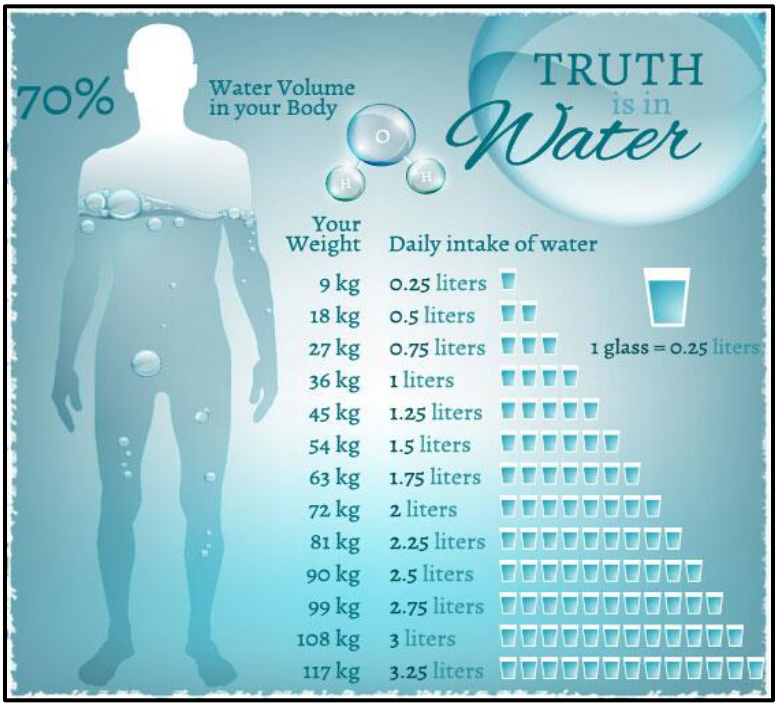
There's no proof that eating after 8 pm can lead to more weight gain in kids, according to a study published in the British Journal of Nutrition. Researchers at King's College London examined the eating habits of 1,620 children — 768 children aged 4 to 10 and 852 children aged 11 to 18. Statistical analysis of the data showed no greater risk of being obese or overweight when eating dinner between 8 pm and 10 pm compared to eating between 2 pm and 8 pm for either age group.

Types of Plastics You're Using
(And which ones you shouldn't)

Safest Choice | Use with Caution | Avoid

MENOPAUSE, INSOMNIA MAY ACCELERATE AGEING

Menopause and insomnia may make women age faster, revealed a dual study published in the journal, Proceedings of the National Academy of Sciences and Biological Psychiatry. Women who report symptoms such as restless sleep, waking repeatedly at night and waking too early in the morning tend to be older biologically than women of similar chronological age who reported no symptoms. The researchers from the University of California also found that menopause speeds up cellular ageing by an average of 6%.



Water

The Lifeblood of the Human Body

BSE
INVESTORS' PROTECTION FUND

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They will cheat you. Instead, invest with a SEBI-registered broker, who will give you sound financial advice.

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