

Healthy India Proceedings of a Seminar 10th August 2016



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Preface

I am indeed very delighted to welcome you to the 5th brainstorming session under the banner of ITF – Innovative Thought Forum, which is a neutral, objective and apolitical platform for deliberating upon India-centric problems and issues and come up with pilotable projects, which can be done with or without the Government support on a small level in different parts of the country and then be taken forward. We've had four rounds of the brainstorming. The first was on "Land and Water" followed by "Agriculture and Allied Sectors". The third one was on "Nutrition security and Food Security for India" and the fourth one was on "Energy Security of India".

Health indeed is one of the most important topics that affects all of us and therefore, we thought that this time we should deliberate upon "Swastha Bharat, Nirogi Bharat" or to call it in short in English—"Healthy India".

Health is a very complex subject and has got linkages to a number of things including air, water, food, nutrition, genetics and above all, varied external conditions that impinge upon us and create problems for us.

There are varying definitions of health in the world. Even, WHO is not totally clear about what should be the complete definition of health. But I personally think that Ayurveda has captured the comprehensive nature of health and have given the best definition. Ayurveda says it is very simple terms – health is condition or state when all forces acting upon us – astral, spiritual, emotional, physical, environmental etc within our body, mind and brain are in balance with each other.

The expenditure on health is enormously large even in the so-called evolved and developed countries. In the USA, they are spending close to 18% of GDP at this point of time. And by the year 2020, the expenditure on health is going to reach 20% of GDP. And believe me or not when they define health, they are only looking at limited dimension of health.

In our own country today, health expenditure, privately, through insurance or by government is major cause of impoverishment and indebtedness every year. Close to around 3-4 crore people are getting drowned into poverty because of the health expenditure.

Truly our great seers had concluded "Health is Wealth". And this is something which has been the base of our entire thinking. We have been making a lot of advancement and it is not correct to say, that India has not progressed well. We have had a tremendous improvement in the longevity. We have secured reduction in various diseases. But when we look at the collective disease burden, we see a shift from communicable diseases to lifestyle diseases and not much overall relief. And tomorrow we could have some other challenges.

After our independence, we gave preponderance to allopathy in the name of it being scientific. All our expenditures and plans were strongly biased in favor of allopathy. In the developed world, it has been agreed that the major improvement in health had occurred much before the advent of antibiotics and steroids. As a matter of fact, a celebrated writer like Ivan Illich says, that "most of the things that you saw in terms of health improvement were due to drinking water, sanitation, better food, better nutrition; antibiotics gave a very small push to that".

Science is a limited qualified knowledge. Something which was appearing scientific 20 years back is not scientific today. Something like RO Water which was considered to be healthy and germ-



free is today under radar by WHO itself, which says, RO water – the Reverse Osmosis water – is not good for health. Because it removes many essential nutrients from water and it is something which can create many lifestyle diseases.

Our current government is fully seized of the challenges and is taking many active steps. It has converted AYUSH from a department into full ministry. Yoga has got a very big boost after the arrival of the new government and we have got International Yoga Day as well as Championing of Yoga by nobody less than our Honorable Prime Minister Shri. Narendra Modi. Today we are seeing a lot of actions in Homeopathy. There is thus genuine effort to integrate AYUSH with allopathic system of medicine to deliver affordable and effective healthcare to the people. Simultaneously, we are also seeing movement like Swachh Bharat Abhiyan, which has naturally got strong linkages to health.

I am very much obliged to each one of you for coming here. We have got a galaxy of experts and celebrities from their respective domains. We have got Bajranglalji to bless us. And we have got Anita Das, who retired as the Secretary of AYUSH to Government of India. Our effort will be to see how we can address the issues that are afflicting us. Pitiable access to affordable quality healthcare for Aam Aadmi is a big challenge. Increasing incidence of lifestyle diseases is second problem. Third problem is poor quality of public health measures so far. Prohibitive cost of private healthcare and steep increase in incidence of injuries are yet other issues.

Before I request Bajaranglalji to set the stage, I want to bring on record the loss of one of the founders of Innovative Thought Forum, Mr. Ramesh Jhamtani, whom some of you have met. We lost him a few months back following a sudden heart attack. I would just like to pray for Mr. Jhamtani and request Bajranglalji to address us and to give us the direction in which we should move.

S. B Dangavach.



Bajrang Lal Gupt

The theme of this seminar today is "Healthy India", which means in our national language as "Swastha Bharat". Swastha is a wonderful terminology meaning swayam (Self) and sthir (stable), namely stable in one self. Western people don't have a meaningful definition of health or even of the man. Man is sometimes described as social animal, mechanical animal or political animal or even biological animal made of millions of small particles collected together. I teach economics and the economists try to put an economic value to the mankind. However, with respect to health, Ayurveda has described the health of four parts of the man namely: (1) Sharir (Body), (2) Mann (Mind), (3) Buddhi (Intellect), (4)Aatma (Soul). When all the above four parts of a person are healthy, then only he may be called healthy. First the body has to be healthy for which the most important thing is Aahar. The mental health of the persons needs to be peaceful; Buddhi needs intellect and of course Aatma needs to have the satisfaction of meeting Param Pujya God. In Ayurveda, all these things have been explained very well. Any deficiency in any of the above components leads to unhealthiness.

With respect to body, all organs of the body should be healthy, only then one may say that person is physically healthy. However, alongwith physical health, mental health of a person is equally or even more important. Symptoms of depression or mental tension are common now-a-days leading to extreme unhappiness that may lead to suicide. Happiness and its correlation with health has been discussed in Indian shastras. People now-a-days don't get sleep because of mental tensions or unhappiness. Mental health also effects physical health leading to symptoms like indigestion etc.

The third type of health component is emotional health. Emotionally also, a person has to be stable and correct. If emotionally incorrect, a person can develop diseases. Therefore only if a person is healthy physically, mentally and emotionally, then only he may be termed as healthy and enjoying total health.

Aatma – the soul is essentially deprived of all deformities. Soul is the cause of consciousness through the mind and the specific qualities of basic elements (touch, shape, smell etc.)

With reference to the cure, there are three streams, namely, preventive health stream, curative health stream and holistic health stream. In the Indian system of medicine, lot of importance has been given to preventive health stream. Three components important for preventive health stream are Aahar (food), Vihar (Physique) and Vyavhar (Behaviour). By regulating Aahar only, 90% of the diseases can be avoided. The Indian system prescribes strict rules for food and eating habits.

In the allopathic system of medicine, doctors advice to eat anything that one can digest. However, Indian literature on "Aahar" provides vast knowledge and suggestions on these issues with reasoning. In "Aahar" different food has to be cooked for old, children and for pregnant women. Food changes with change in season. Time to take food is also very important in the Indian literature. First grasp of food is required to be taken at the time of breathing by left nostril, suggested by Charak, the great Indian food expert. According to a story, Charak once adopted the form of a big bird and asked a few learned people about the appropriate habit of eating food. Every learned person narrated is own thinking on the subject with big explanatory notes. Charak was dissatisfied. Learned people then asked the bird about his opinion. He recommended about eating food in three words:



Mit Bhuktam (Eat less)

Hit Muktam (Hitkari Bhojan)

Rit Bhuktam (Eat food with honestly earned money)

Along with the importance about the way of eating, equally or more important is the method of cooking. If the cooking technique is not proper, then the food loses its nutritional value. Now-adays we keep food in a refrigerator. Food stored in a refrigerator for a long time loses its nutritional value. The next important point about the nutritional value of the food is the manner of feeding the food. The way and the feeling with which the food is served, affects health and nutrition. Sentiments and affection during feeding help in better digestion. Sharing of food with others also provides immense happiness as described by Charak, an ancient Indian food scholar and technologist. Immense gap between rich and poor could be narrowed by sharing of food. Defective pattern of consuming food affects life span and health. Keeping of ethics should also be adopted in our food consumption. We need to qualify the type of food for rural, urban and tribal areas separately. As per Indian situation, what means could be adopted should be considered carefully for providing nutrition. Total dependence on technology for processing of food is also raising serious questions.

Pathogenic factors in the body are Vata, Pitta and Kapha and mental doshas are Rajas and Tamas. Three types of treatment are advised in Ayurveda for these two types of disorders (Doshas) — Physical doshas, Vata, Pitta and Kapha are balanced by Daiva Vyapastiraya Chikitsa (religious rites) and Yukti Vyapastiraya Chikitsa i.e performed by a physician, though proper planning. The psychological doshas — Rajas and Tamas are balanced by spiritual and scriptural knowledge, patience, memory and meditation.

Next most important thing in preventive health stream is the life style (Vihar). Walking and performing exercise are essential to get sufficient oxygen and hence to remain healthy. Sedentary living leads to several diseases like diabetes and high blood pressure etc. The last, but not the least, important characteristic of healthy person is his behavior (Vyavahar). This corresponds to man's behavior with family, neighbors and colleagues. A smiling behavior generates positive energies and help people live healthier. In modern times, the life style is snatching away good health and becoming responsible for ill-health.

The second stream for health in Ayurveda is the curative health stream. All principles of Ayurveda are based on universal principles like heat and cold, five sense organs, five elements, that will never change, namely – fire, air, sky, light & earth. Curative stream of Ayurveda uses herbs and Yoga Pranayam, for curing diseases. Several Ayurvedic treatments have been studied for a variety of medical conditions. An example is Ashwagandha that has anti-depressant and possibly anticancer effect. Fortunately Ayush has been given an identity now by creating a full fledged Ministry. In my opinion the syllabus of medical education should have holistic contents drawn from modern allopathic to Indian preventive as well as curative health system and also the homeopathy.

In our country health and education are neglected areas as far as allocation in our financial layout is concerned. Only 1% of GDP allocated to health, which is not sufficient. These allocations are also more for urban areas than the rural areas, where majority of Indian population lives. Neglected rural areas for healthcare create regional inequality. Our health care is now non dependent upon the ability to pay. This is really cruel, when a poor person can't get any treatment because of his inability to pay. Also there is a nexus between doctors, diagnostic centers and Pharma industries. This leads to



inflated bills and misinformation. Our health system should prescribe alternative & cheaper treatment procedures so that the health care becomes inclusive. Wrong information such as large number of HIV patients in India should be avoided so that our people go to hospitals without any fear.

With this, I hope that a stage has been set for deliberations on Healthy India, when experts like you will tell us about the solution to the problem keeping Indians healthy and achieving the decided goal of Healthy India.





Chapter 1 India's Health Challenges and the Way Forward.

Anita Das.

1. Introduction

A very comprehensive and holistic exposition of health has been presented by Dr. Bajranglalji. Good health is the centre of our lives without which one can't live to his full potential. We just heard that in totality the health requires healthy body, healthy mind, intellect and noble soul. A child needs to be given an environment that provides him opportunity to develop to his full potential. Each one of us here had the fortune of growing in a good economic, educational and professional environment, where we had the chance to grow and develop. The pre-requisites for good health are clean air, clean water, good hygiene, good climate and healthy food and then awareness about treatment options. The most important component of health therefore is the role of woman in family, who should be healthy and informed. Not only, women represent half of the population, but biologically they are considered to be superior and they are mainly responsible for healthy care of the family members. The most important function of the woman in a family is to provide healthy Aahar (Food). Lot of information is available about food in our Vedic scripts.

Traditional knowledge being lost and the affordability for adequate food is becoming difficult, malnourishment has plagued the country in 50% of our children. It is well known that from the stage of conception to the age of 2-3 years, if adequate nutrition is not provided, then the children will get stunted for life. This situation is really a drag on the economy. Many western scholars and scientist, who came to India and analyze the situation here, say that India is an economic power house but nutritionally very weak. An article in the Newyork Times raises the question, how come Indians are able to tackle emergencies like famine, but not able to tackle the problem of malnutrition in spite of decades of programmers of ICDS, Anganwadi, and mid day meal etc.

2. India's Health Challenges.

The basic challenges to Indian's Health are malnutrition and poverty. It is further compounded by the problems of hygiene, water and sanitation etc. A child therefore born has low weight, grows malnourished and then lives in unhygienic conditions. The problem is further complicated by the poverty, making adequate health access unaffordable to almost one third of our population. Our public health care system being in a dismissal state, a lower middle class family either neglects a sick member of the family or falls back to the poverty because of expensive private health care system.

Our primary health care centers suffer from the problem of outreach, shortage of doctors and essential primary medicines. Most of these health centers are located in bigger villages and villagers in small villages have to walk long distances to avail the facilities at these centers, which suffer from chronic problems of qualified doctors and essential medicines. India's health sector outlays and expenditure as percentage of GDP is abysmally low. Qualified allopathic doctors are not willing to go to these primary health centers. The solution may therefore be to send doctors from Ayurveda, homeopathy or unani streams with some basic training. There is a need to integrate ayurveda with allopathy and other medicinal systems at the grass root level. This will enable the availability of qualified and capable doctors as second stream, who can tackle majority of health problems in the rural areas.



3. Examples of Integrated Medicinal Systems

In the year 2008, I had an opportunity to go to China and study the Chinese Traditional Medicine (TCM). They showcased us a hospital in Shanghai, practicing an integrated system of medicines. The hospital had 1000 beds with ultramodern facilities. The infrastructure had latest machinery and equipment, maintained and operated by qualified technicians and doctors of modern medicinal systems. Depending upon the patient's condition modern or traditional medicinal systems is provided to the patient. For example, in trauma cases, a patient needs to be treated using modern knowledge and modern equipment. After stabilization, the patient was treated using TCM. Doctors from modern disciplines and from the TCM work in harmony with each other.

A very good example of integrative medicine is in Kerala, very close to Cochin. There is primarily an Ayurvedic 500 bed hospital and extremely popular. This hospital is very popular in the state, because most people there believe on Ayurvedic medicine. The hospital has even an infertility clinic combining Ayurveda with modern system of medicine. Similarly in Kolkata, homeopathy was being used to deal with pallative care for cancer afflicted patients.

At the National Sidha Institute in Chennai, where many women are treated with various kinds of musculoskeletal problems arising from osteoporosis and rheumatism. The women were supposedly improving through massage therapy using oil and emotional human touch. This institution is taking care of various patients in a holistic way.

Another example of traditional healers comes from the North East part of the country as an example in Manipur, where a part of my work was related to herbs and herbal medicines. People there live in the difficult interior areas in villages. People are reasonably healthy because of good nutrition and fresh air. In the system of Manipur medicine, there are 2500 therapies described in the ancient scripts. It is a very large body of knowledge, but unfortunately not coded. We should initiate research and retrieve the knowledge that may benefit millions. You must be aware of the wonderful work of Ayush in conjunction with the CSIR on traditional knowledge digital library, codifying Ayurveda remedies, recipes and therapies to prevent stealing of Knowledge. Many known varieties of Indian medicines like Ashwagandha, Neem, Haldi and many more are myriads of therapies. More research is required to establish poly-therapeutic use of these natural products for remedial uses.

4. Investments in Indian Health Care Systems.

Investments in the public health care system have been poor, while India has the fastest growing population and an ambitious growth aspiration; it has a disproportionately small health budget, shrinking to 1-2% GDP in the year 2015. Private investments in health have been phenomenal and a few very fine centers have come up. But people, at large are not able to afford these facilities. Interventions are required to enable the masses to make health care accessible. Public health care by design depends upon allopathic system of medicine. To make best use of traditional wisdom, some modules of ayurveda and homeopathy must be included in the MBBS course. This requires clean mind sets and a political will. Investments are required to marry traditional health care with the modern allopathic health care to make best use of the two.

5. AYUSH Education.

Government has been making efforts to promote Ayurveda and a Department was started in the health ministry. Now AYUSH is a full fledged ministry and AYUSH Health Mission was also started. However, AYUSH is not running well except in Himachal Pradesh, Kerala and Tamil Nadu.



Unfortunately medical courses of AYUSH streams are not rigorous. There are a few individual doctors who are self dedicated. In Tamil Nadu some excellent work has been done. In some remote PHCs, there are Ayurvedic doctors, who are well trained and sufficient public funds, are provided to them.

We need a national campaign for AYUSH. Put the knowledge in a volume, for example for geriatric care. Disseminate the knowledge through various health instructions and dispensaries. This will be extremely helpful in taking care of the old.





Chapter 2 Unethical Medical Practices and Consumers in India

Jayshree Gupta

1. Introduction

You might have heard about a landmark report by an Indian doctor in Harvard school of Public Health, according to his report about three million years of health is lost in India each year due to medical errors. Inspite of the inadequacy of funding, the Government of India has created a huge network of public health service and sufficient money is spent on this network every year. There is considerable infrastructure in the country in terms of government hospitals at district level, at state level, at community health centers, primary health centers (PHCs and sub centers etc. While PHCs are in rural areas, sub-centers are in midst of villages for a population of few thousands. The major problem in all theses centers, including district level hospital is absenteeism of doctors and paramedical staff, poor upkeep and lack of medicines etc. The service are very poor, the doctors appointed for these hospitals / health centers practice in the city or district and visit their appointed place one in a week or two like guests. This is the reason for cases like the one in Bulandshahar, where the patients were being operated by an attendant. India really needs an overhaul of public health care and fresh remedial measures to ensure accountability.

2. Accountability and Consumer Protection Act.

Using advanced technology, it is possible to take care of absenteeism and making all in the hierarchy accountable. It is certain that there is some understanding between a PHC doctor and the district medical superintendent. Certain percentage of his monthly salary is given to the superintendent in lieu of this facility. There should be huge penalties for such type of acts. It is only due to such kind of work practices that 80% of the patients prefer to go to the private sector. In another extreme example I found five doctors sitting in a PHC in a hilly area and bathing in the sun. On enquiry I was told that not more than five patients visit the PHC because of total lack of medicines and diagnostic facilities. All such PHCs and district hospital need major overhaul in the country. People are forced to go to private clinics burdening them with debt. This high cost for the health care is one of the major causes of poverty. During 2012 convocation of All India Institute of Medical Sciences, Hon'ble President of India, Pranab Mukherjee said, "I am shocked to note that as many as 4 crores of people of our country plunge into poverty each year due to expenses on medical treatment".

3. Consumer and Consumer Protection Act.

Under the Supreme Court ruling of 1996, patient is a consumer if he or she has paid for the services and he is covered under consumer protection act 1986. All the medical associations and medical doctors were against this act. In a landmark judgment over a long legal battle between Indian Medical Association Vs V.P Shantha, the Supreme Court ruled that the doctors can be held liable under Consumer Protection Act 1986 for deficiency of services.

Court procedures are lengthy and delayed. I cite an example of a US based doctor Kunal Saha whose wife died in 1998 in Kolkata due to negligence of a doctor. On complaint to West Bengal Medical Council, doctor was given a clean chit. They went from the consumer forum to the National Commission. A compensation of Rs.1.73 crores was ordered in 2011. Not satisfied, Saha went to the Supreme Court, who ordered a compensation of Rs.6 crore, the highest ever in the year 2013. The whole process thus took 15 years. This is really not justice because the justice delayed is justice



denled.

National Human Rights commission is empowered to look into the complaints of violation of human right including those of medical negligence. Human rights after all relate to life, liberty, equality and dignity of an individual. In one of the NHRC cases, a woman patient was awarded a compensation of Rs.1 lac only, because her uterus was removed instead of kidney stones. So, there are certain platforms for complains against medical negligence.

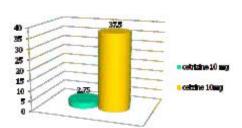
Medical Education : Miles to go.

Our medical education, except in leading public institutions, admission to MBBS or for a Master's degree does not depend upon merit. Any one capable of paying hefty donations get entry Into one of such privately operated institutors, it is obvious then not to expect any ethical medical practice norms from an individual like this. Even for admissions in public institutions, several scandals have been reported. There is a lot more to be done to stop unfair admission in the medical Institutions. Fortunately, however, lots of developments have taken place in this regard. There are regulatory agencies in the country; Indian Medical Council being one of these. This council alongwith the state councils prescribe the code of ethics for medical practitioners as well as for medical education. The councils are empowered to take appropriate action when ethical practices are not observed either by medical education institutes or individual doctors. In spite of huge powers these councils enjoy, hardly any action has been taken on the practitioners, even those who are not qualified. According to a study, there are around 40000 quacks operating in Delhi alone. An institution set up by Balwantari Arora, has given 50000 fake MBBS degrees. Yet drastic action was missing against the institute. In fact MCI has been alleged to be involved in providing recognition to nondeserving institutions of medical education. Had the medical intuitions acted honestly on their mandate the child ratio 0-6 years old would not decline with every census, in 2001 census there were 927 females per 1000 males and in 2011 census the ratio is 914 females per 1000 males. In Delhi, child sex ratio was only 866: 1000 in the year 2011.

Affordable Drugs.

The main burden of health care on people is due to high cost of medicines, which constitute 79% of the total treatment. This high cost is due to very highly priced branded medicines and there is pharma-doctor nexus. During my tenure as CMD of IDPL, a public sector unit, a medicine of 30 strips was being sold at Rs.350. Same medicine, with different trade names, were available in the market at rate between Rs,100 to Rs.400. More reputed a doctor is, costiler will be the prescribed medicine by him. Another example was the cost of cetrizine, a medicine prescribed for allergies IDPL brought out this medicine under Jan Aushdhi initiative with a market price of Rs.2.75; the branded medicine was costing Rs.37.50 (Fig. 1).

Cetrizine -10 mg, 10 tablets in Jan Aushadhi



v/s Cetzine (Glaxosmithkline)-Branded

Fig. 1: Cost difference between branded Cetrizine and IDPL cetzine



A number of such issues of inflated drug prices were documented and taken the matter to Supreme Court. After a lot of struggle, the Government of India decided to increase the number of essential medicines from 74 to 348, enabling the government to regulate their prices. As a result the cost of these medicines has really come down.

6. Unethical Medical Practices.

It is very well know that Indian, people are involved in unethical medical practices, be a doctor or a chemist. There are quakes who promise magical cures for life threatening diseases and weight reduction etc. It is advisable not to be carried away by such advertisements. Always go to a registered medical practitioner and ask for a prescription. Always check the label for manufacturing date and the expiry and it is preferable to insist for a bill.

A forum namely, Consumers India, has been campaigning for safeguarding the interest of consumers. The forum has been in contact with Medical council of India, National Pharmaceutical Pricing Authority, Food Safety Standard Authority of India and of course TRAI, IRDA and SEBI etc. We advise all concerned to be fair and just when at the giving end. One can make a big difference in being honest, sincere and helpful. One should think in a positive manner and refuse to adopt unethical practices. Adopting these practices I could achieve 1500% growth in the IDPL production. It is time to be a smart consumer. Raise voice and say no to injustice.





Chapter 3 Medicines: Roadmap for Healthy India

R. B. Smarta

1. Introduction

A lot of things have been said about health and medicines. There is a lot of investment that goes in the manufacturing of drugs and one would be surprised to know that there is no other industry that gives the pharmacist 16-20% on MRP and 8-10% to stockists. Pharmaceutical industry may earn less at the end in terms of margin due to taxation and other things, but the middlemen earn a lot of margins eventually. These kind of issues need to be dealt with differently and carefully. I believe that India needs to be future ready. It needs to device strategies to tackle diseases that are and might in future plague India. A lot of campaigns have been successful in India such as AIDS campaign, social media marketing and in condoms campaign, salt, eggs and milk campaign. Then why can't we be successful in health campaign? When a common housewife goes to buy vegetables, she looks at them whether they are wet or dry, cost, freshness, etc. This shows how involved and engaged she is in this simple process and ultimately ends up having a good bargain. But when the same housewife goes to buy medicines, then why is she blank? In other words, what is happening is that we have no conscious efforts to engage and educate people in terms of health and medicines. After all'Zindagi Na Milegi Dobara'. Life is precious and a lot of things can go wrong due to incorrect administration of medicines.

2. Healthy Indian

India is a vast and diverse nation. Being Indians we should concentrate on making every Indian healthy in turn making India healthy. A good roadmap is required to achieve this goal of making India healthy. A healthy Indian needs to be health conscious, and consciousness, like Upanishads have said not only needs to be about self but also about matter and life around us. There is a need to be conscious of body, in terms of physical, mental as well as perceptual status. Basic parameters of health, which all of us know, include the overall indications of health such as life expectancy, maternal and neonatal mortality rate, public health indications such as penetration of sanitation, malnutrition prevalence, DTP3 vaccination, smoking prevalence, communicable and non-communicable diseases.

As mentioned earlier, India is basically a carbohydrate country. When we were working on sugar health control atta of ITC, we found that when doctors advocate patients to take one katora of rice, they never realise the size of Katora of a family. Big size is known as katora and small size is called Katori!! This is the kind of communication and understanding that goes to the patient and the patient follows it. Looking at this, you find that you have to really deal with everything in India differently!! And that's why India is unique in terms of taking care of all these issues!!!

Today, we have career plans, financial plans but do we a health plan? For most of the Indians the answer to this would be big No. If we don't have a health plan, how can we become conscious about our health? An Indians' mind is different, it is very innovative and entrepreneurial mind, that always thinks of a way out and an alternative for everything. But in case of health that should not be the case. We should follow all the regimes that are required for leading a healthy life. As Confucius rightly said that, 'Life is simple, we insist on making it complicated'. So, it is important to address the entire environment rather than addressing ourselves and then making a joint pool or joint bridge between that to attain our goal of health.



An Indian should be engaged. There are so many ways to do this. Look at the younger generation in Bengaluru, there are Rs. 1 crore salaries for two people, if you are working for IT. What are they bothered about? They are engaged. They are engaged with various sources of information, like Google. When they go along with the patients to the doctor, they ask hundred questions to the doctors. Doctors cannot answer them because they understand the depth of knowledge of patients trained by Dr. Google! If you look at doctors today, they have become interpreters of pathology laboratory reports. They don't even touch the patients. So, I think there are a lot of things which we need to do at different levels.

Who can demand it? A patient can demand it. No sir, I want this. I want to know this. And many doctors are changing because of patients. There is an issue for accessible competent medical infrastructure today. Primary Health Centers don't have medicines. Even if medicines are there, quality and safety issues persist. People are raising voices about the quality of our medicines. But basically we need to look at it, where we provide complete affordability, world is looking at it. US is asking us to do a lot of things. US is asking every pharmaceutical company to open manufacturing unit in US. They perhaps don't want to buy from India. What does it mean? Tomorrow, we will lessen US exports. What is that you would like to redo to look at this part?

Prevention Co-exists:

Along with mitigating of diseases, prevention is also getting equal importance. People have started becoming aware about health thus there is an increased focus on prevention. Health consciousness will initiate the desire for prevention of diseases and staying fit, healthy and disease free. If we are conscious, we will be able to do a lot of things differently, in short creating a power together.

3 Food and Medicines:

Hippocrates states that 'Food is Medicine and exercise is must' Even with respect to diet, Vaidya Lolimbraj in his book 'Vaidya-jeevanam' has given a very important principal regarding pathya and apathya. The diet and regimen which is beneficial to the body and gives the happiness to the mind is known as Pathya and opposite to that is known as Apathya. Most of the health problems develop due to the faulty eating habits and regimen. Ayurveda deals with the pathyavyavastha (planning of diet-dietetics) in a very scientific way.

As you know, we have 16 biodiversed zones and different kind of food habits in every part of India, Eucalyptus in South and Eucalyptus in North are different. So looking at all these natural resources we have, how do we really contribute and integrate them towards something which we want as Health!

The Hippocrates' oath sworn by doctors has somewhere lost its meaning over the years. Looking at this scenario, patient needs to be presented with power. Patient power will change everything. 60% of our population is between 25-50 years. These people can be easily educated and influenced. 'Pak Shashtra' is a very important Shashtra. We talk about 'Pak Shashtra', Aahar, Vihaar and Vichaar. We talk about so many things, but what do we do to properly articulate them. This is possible with social marketing and social campaigns like 'Swachcha Bharat.' These campaigns need to be done emphatically and also very differently.

We are full of micro-biomes. We inherit lot of animal micro-biomes right from the childhood along with human micro-biomes. If there is a balance between the animal and human micro-biomes,



there is no disease. All these diseases are because there is imbalance of trillions of our micro-biomes internally. So it's a matter of environment.

The concept of wellness is not fully understood by many people. Today, we don't have Indian standards for cholesterols. We used to worry about Cholesterol for any heart diseases. Suddenly, after patient finishes his dose of Lipitor, a report comes from US saying cholesterol has no meaning. On his own, patient will find out and say, okay, this is level of my cholesterol, it is in order it drop the medication!

So, what is happening to us, on one hand, we are becoming, very intelligent, very dedicated and very knowledgable; on the other hand, there are no standards. We have to look for standards for india that can be uniformly applied for all branches of medicinal care?

Suppose somebody wants to develop a product, which reduces fat. Such a product developed for protein-based country is not going to help Indians. If we have to invent something appropriate for India, we need to look at carbohydrate dependent country and help us to manage fat.

4 Lifecycle of Health of Countries

There are underdeveloped, developing, and developed areas or say countries with health maps focusing on infections, care for chronic conditions, health maintenance programs, preventive medicines, nutrition and healthcare delivery. Unfortunately, we in India don't have primary, secondary and tertiary care.

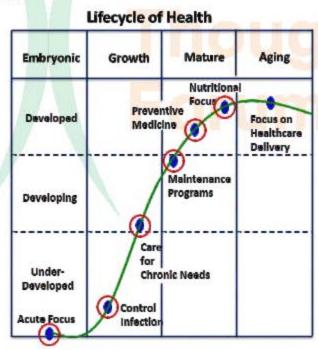


Fig.1 Lifecycle of health of developed, developing and under-developed countries

While, we have problems in primary and secondary care, we have no problems in tertiary care as we are almost no.1. in the world! So, looking at these things, we find india is a very unique country. We have five health conscious cities in India where people are expecting quality healthcare delivery. Our country is really developing right from sanitation to refined environment, hygiene, economic growth, medical infrastructure, and all that comes when we look at the entire health of the country.



5 Evolution of Healthcare and Medicine

What is the evolution of healthcare and medicines in India and how the evolution took place? Before 18th century, we had Yin and Yang and Prakriti - in terms of Chinese medicines. There are four different observations and these observations have two nadis. They don't watch one nadi but they watch both the nadis. So that Yin and Yang both have to be there. So we find this is what starts here. And they did a very big job. A part of US is almost infested with Chinese medicines. Chinese herbs are very well-known all over the world. Ayurveda, is basically Prakruti-based. Ayurved, basically looks at Nadi and surgery. Surgery was propagated by Sushruta since ancient times. When there were certain issues among the ladies, ladies' noses were cut. Nose surgery was the first surgery Sushruta performed. So surgery is there in India for a very long time. We used to embark on them and give protocols to doctors. These surgeries were famous. All instruments which were available in Sushruta'stime, are very valuable and good enough. So, from there, it came to modern medicines. A flow chart of evolution of medicines is given in Fig. 2.

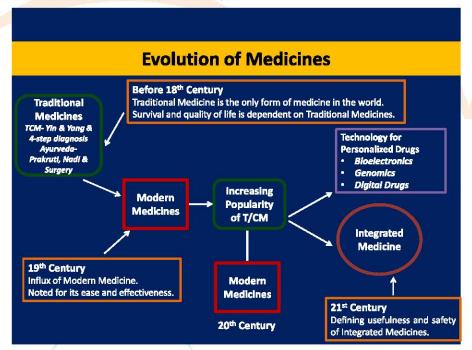


Fig.2: Evolution of medicines

Modern medicines started very clearly in terms of flux. Modern medicines were promoted after Independence came to India. Brands – that's it. Brands from different companies. I used to have Rs. 350 salary, and Rs. 150 per strip was "Chloromycetin". Chloromycetin was a life-saving drug and still people used to consume it. Why, because of no choice and life is precious was the attitude! Affordability concept then and affordability concept now is different. Affordability does not mean only for poor. Affordability is also for the rich. The rich immediately go to the hospitals today. They are not bothered about the swirl child. The poor, still look at it, what to do and where to go. So, getting accessibility of medicines and of medical infrastructure is also equally important. Today we are talking about bioelectronics, genomics and also digital drugs. The first digital drug first 'Thync' is a small strip of US \$50 that lifts up moods of people is also available!

6. Evolution of Pharmaceutical Industry

What has happened to Indian pharmaceutical industry? Indian pharmaceutical industry was



so good in APIs – the Active Pharmaceutical Ingredients. We started with that. We were quality conscious and everything. In between China took it over. Now, South Korea and North Korea are there. Today, when we look at this API business we are finding it difficult to sustain. But in this passage, after API, we needed to do branding. We never did branding. We feared promotion. We straight went to exports instead of branding. Can you believe only two brands are created in the world today by India? One is Liv 52 and another is Dr Mom, both Ayurvedic.

Not homoeopathy. Not even allopathy. We are not a very rich country. Obviously we cannot afford R&D from first phase. So, we went to branded generics. And that's where our industry developed. Our pharmaceutical industry has got convulsions every eighth year. Incidentally since 1971 first DPCO, 1979 second one, 1987 third one, 1995 fourth one, 2003 was a time for WTO so it be 2005, 2013 was a new drug policy and NCPA, and exactly in 2021 we will have another change. Every eighth year pharma companies are managing the product portfolio. What is marketing-wise correct, doesn't mean it is pharmacologically synergized. The synergistic combinations are available in pharmacology why not to do that. And on question of pricing, pharmacoeconomics is the best way! If I give a new migraine medicine, today at Rs. 5 and I say, this new medicine is Rs. 25. Is there a five times effect? Let me judge the effect with the price. The effect is not there. Pharmaco economics is partly done in India but the world is practicing it. Pharmacovigilance is there, but we are trained to look at it from the pharmacist point of view as well as from the industry point of view.

NCEs & NMEs:

We are no more worried about new chemical entities. We are talking about new medical entities. We are moving towards Phytopharmaceuticals. We have scientists in India, who have done an excellent work on Triphala. So, looking at this, we need to integrate all health systems, we need to fractionize, we need to undertake lot of efforts to integrate these scientists. Similarly, wisdom of Atharva Veda, needs to be further crystalised and if, anything needs to be established scientifically, then it can be done and wisdom can be transformed in a new way for gen next population, to accept it. Younger generation needs evidence.

7. Integrated health solutions:

Allopathy looks at systems, reproductive systems, gastro-intestinal systems and any other systems. Allopathyworks on hypothesis – concepts and holistic science Ayurveda is holistic. Homoeopathy is "cells" oriented! We can integrate all systems with protocols. We can also look at prevention where nutraceuticals gets added. As a result, decision making process, once combined, may slightly change. In case of Nutraceuticals, the decision making is done by consumers, not by doctors. Lutein is known all over the world as a brand and useful for Macular degeneration. Luteinis usually combined with Xiaxamthin for it to work.

According to Angus Deaton, who received Noble Prize in 2015, there is risk in nutria puzzle in India, risk of having population with impaired nutritional status and growth, defective immunity system and reduced productivity. There is inequality in money and inequality in health. We need to address this at macro level.

What we need to do is that we need to be proactive. Majority of our issues are proactive. If you put a paid weighing machine on the railway, everybody will go and weigh. If you put blood pressure checking or eye checking machine, nobody will go there through primary research. We found out, nobody goes there because they are frightened! We are episode-oriented!! Once it comes, then only we think about health!!!



We need to really build up consciousness along with organized primary and poor health sectors. Something has to be done also at the providers' level – at the hospital level, at the pharmacy levelincluding all other stakeholders of health. Something has to be done even at the technology level.

Customized medicines are coming in. So, we need to look at these thingsgenetically too. We have a different disease pattern in India. We need to look at them.

In tertiary care we are no. 2 we are No.1 in generics in the world. We just have to increase perception and reality of quality delivery.

IDPL (an existing PSU) can perhaps do that very correctly. Bengaluru, Chennai, Kolkata, Delhi and Mumbai are the most health conscious cities in India. We need to look at India as a whole. We have so many medical colleges and so many post-graduates. Still there is an issue of availability and late diagnosis. The concern is not patient centricity but product centricity or business centricity.

Innovation has been there. Medicine, bioelectronics, gene therapy, nano medicine, technology innovations, science innovations and medical devices are here. We have everything. In other words we are veryscience based intelligent and hard working.

8. Today's healthcare status:

Although, there are 1,96,312 hospitals along with 3601Ayush hospitals and 156926 subcentres, we have a very dissatisfied ratio when it comes to doctor patient ratio in rural India. As per health ministry statistics, it stands at doctor patient ratio as 1:30,000 much above than WHO recommended ratio of 1 to 1000. From medical infrastructure point of view, we have 404 medical colleges, 189 government medical colleges, 215 private medical colleges, we will find that availability of doctor to patient ratio as well as resources available at primary and secondary healthcare centres is lacking.

As India is one of the top tertiary care centre. It also collaborates with more than 25,000 post graduates, in other words, we have almost 9,600 allopathic doctors, 3.9 Lacs ayush practitioners and around 1673377 paramedicos in India.

In comparison to US, you find almost 1/5th of practicing specialists as cardiologists ½ of practicing pediatricians, 1/5th of pulmonologist, almost 1/13th neurologists and 1/4th other flu, pneumonia and TB patients.

Having this background of medical infrastructure today, we also find a very energetic fact that today in India late diagnosis is taking a norm which imposes high cost of treatment to the patients. Very little amount is spent on prevention. However, from diagnosis to initial treatment to advance care and follow up in India for even single treatment like diabetes treatment, overall treatment cost would be almost 18 times higher as it is spent on prescriptions, doctors and labs medical devices and health care delivery. It is just because diagnosis is late and there is a very little prevention.

Comparative health expenditure is very less such as a meagre 1% in comparison to US is because percentage people insured in people are comparatively very low, unless health insurance goes up and per capita healthcare expenditure increases, you will find this disparity in health expenditure vis-à-vis in healthcare and health insurance.

9 Engagement of health conscious Indians:

A health conscious Indian which basically located in 5 major cities such as Delhi, Mumbai,



Bangalore, Chennai and Kolkata, which means 30-35% of Indian population which conscious along with changes in their eating habits overtime. Among health conscious Indians awareness has been provided by mobile phone, smart phone and internet as mobile phone penetration is increasing at 3% every year. Similarly, smart phones at 70% and internet at 22%. Over a period of 3 years, you will find substantial awareness amongst Indian population.

Obviously, lifestyle management is taking turn with the help of educational tools, mobile reminders for diet and medication, mobile systems such as S healthcare to track compliance and also mobile application and wearable technology. In case of diagnosis treatment and follow up spurt has come in telemedicines, teleconsultation, tele radiology centers and also EICOs. Obviously, due to digital technology, self-testing and basic treatment is brought at home and it can be easily tracked and monitored through healthcare perspective.

Towards Wellness:

Singapore has emerged as world healthier country and India ranks as low as 103 in the list of 145 nations. Score has been based on life expectancy and cause of death. As a culture and tradition, India has traditional knowledge of Ayurveda which is now getting coupled with nutrition, nutraceuticals and biological products, which would definitely give an edge of prevention to India. Wellness is a kind of stage which goes beyond being health and health also has major three components which could be in balance. These three components are mind, body & spirit or soul. Although, it looks like a metaphysical awareness of self and balancing your system as a human being in an environment which is always changing and challenging to remain in a wellness state.

However, overall pre-requisites which are required in being getting dragged towards wellness are available in Indian climate, which needs to be captured as we grow on illness to wellness fulcrum. This means in no way disease free state of human beings but a happier state of health and wellbeing.

10 Roadmap 2025

There should be a social marketing campaign. As we have been successful, we should do this, so that consciousness among the people rises. Second is pharmaceutical industry also can create some kind of awareness. Funding can be there from many companies because we need to do this. Second is engagement, namely the engagement with new electronic media. Through media we can really get people engaged, because they are the right people. In terms of Medical infrastructure, increase the medical course seats. We have 493-500 colleges. Increase the seats with medical infrastructure and the facilities to teach them. Nurses having 20 years of experience in the world are called as nurse practitioners. We can make such nurse practitioners in primary healthcare. We can also look at special diplomas. We have more than 750,000 pharmacists in every rural area. Give them this diploma, so that, we can have different kinds of practitioners. Also rural development can be achieved by this. Affordability is there, prevention is possible and wellness is possible, this has to be done by all.



Chapter 4 Stop Diabetes: Movement for Healthy India.

R. Nagarathna.

1. Introduction

I offer greetings from Swami Vivekananda Yoga Anusandhan Samsthana to the delegates of this workshop on Healthy India. In the next fifteen minutes, I will be taking you through the practices we have been using in the yoga programme. Our friend just told that yoga is not just putting a catheter tube in the nose, but it is much more. It is Samatvam (Krishna), it is Prashmana(Krishna) and in health practices it is Yoga life style change. In general Yoga is Mastery (Patanjali) over life. We need to develop path towards total health, which is a state of well being at physical, mental, social and spiritual level and not merely the absence of illness or infirmity.

2. Life Style Connected Diseases

What is being witnessed today, is a shift from communicable diseases like plague and cholera of 19th century to non-communicable disease like cancer and heart attack with 20th and 21st century. Most of the diseases of modern times are connected to life style, one needs to talk about Aahara & Vihara. Aahar, vihar and stress are all traceable to mind. Yoga therefore focuses on mind as the root cause of many of these problems. Anger, fear and stress affect many body parts as shown in Fig. 1.

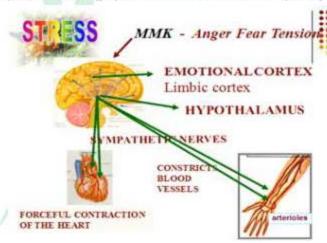


Fig. 1 (Slide 9)

The emotions that are generated in our mind affect our body through psycho-neurological mechanisms. Too many things happen simultaneously in the modern life creating large number of demanding situations, which makes us highly sensitive and move towards not having enough time to rest. If this becomes a habit, it may lead to hypersensitivity, muscle stiffness, diabetes etc.

Solutions in Ayurveda

In the traditional text, enough information is available for providing relief to all these problems of changing life styles. Basically, there are two concepts, namely understaning the body (Panchkosha Viveka) and the definition of stress. In Panchkosha, there are five aspects of human body, namely, Annamaya(Physical), Pranamaya(Life force), Mamomaya (Mental), Vijnanamaya (Intellectual) and Anandamaya (Bliss). Theses koshas are subtleties of existence and not water tight compartments. They are in fact merging into each other (Fig.2).



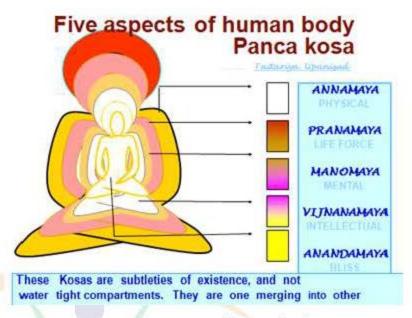


Fig. 2 Five aspects of human body

A very important definition of stress is from Bhagwad Gita, according to which stress is not the situation but it is the speeded up violent response to demanding situation, which pick up enormous energy to manifest as a disease at the physical level or at the psychiatric level. A complete Gita model of stress is illustrated in Fig. 3

Concept of Stress

Gita Model		
THINKING OF OBJECTS REAL OR IMAGINED		(DHYÁYATO VISHÁYÁN)
DESIRE		(SANGAH)
INFATUATION		(KÁMAH)
ANGER		(KRODHAH)
DISTURBED AWARENESS		(SAMMÔHAH)
LOSS OF MEMORY		(SMRTIVIBHRAMAH)
MENTALILLNESS		(BUDDHINÁSHAH)
DESTRUCTION	V	(PRANASYATI)

Fig. 3 A composite Gita Model of Stress

The solution therefore is to work on the mind and work on emotional stability and therefore we talk about Prashamana as the major Pranayama, a yoga exercise which slows down the mind.

Manah Prasamana Upayah Yogah Vasistha.

A large number of relaxation techniques are used in Yoga like deep relaxation, instant



relaxation, quick relaxation, cyclic medications etc. Deep rest and relaxation leads to balanced state of mind. Yoga is "Samatvam Yoga Ucyate" Bhagwad Gita. Yoga leads to Equanimity, Stability, Balance, Harmony and Equipoise. In the Integrated Yoga programme, we work on satvik diet, cleansing technique, and Asanas that are specifically selected for the condition.

4. Stop Diabetes Movement.

Stop Diabetes Movement is a nationwide movement that was initiated by our institution in the year 2008. This movement is community public-private effort to prevent India from becoming the global capital for diabetes. It is a collective effort through Yoga based life style changes in the age group of 20-79. India is at the top of 10 countries, where diabetes is most prevalent (Fig. 4)

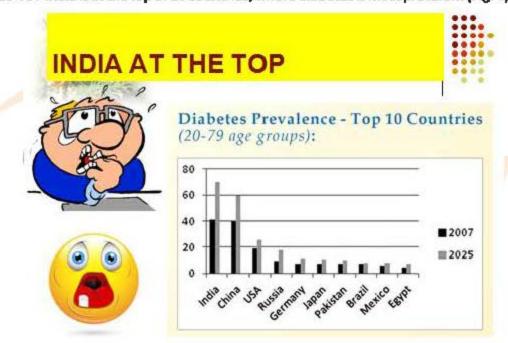


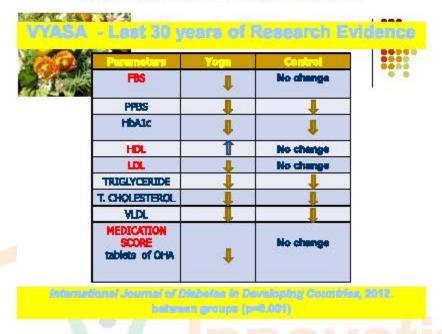
Fig. 4 Diabetes prevalence in top 10 countries

Every ten seconds, a person dies because of diabetic complications, during the same period of ten seconds two people are diagnosed as diabetic, one in every five diabetics is an indian and diabetes is gradually becoming more dangerous than AIDS. Our programme consists of two interventions, i.e. Primary prevention and secondary prevention. In the former, the effort is to prevent a pre-diabetic person to become diabetic and in the secondary prevention we make an effort to convert diabetes from severe to moderate, moderate to mild and from mild to normal. Some specific modules were prepare between 2008 and 2013 with the alm of making this module acceptable all over the country. Some 2630 instructors were trained across the country and two national conferences were organized in mechanism and strategies to promote yoga for cure of diabetes. A number of awareness camps were organized. With sufficient data, it was possible to show that exercise based life style change, is similar to yoga based life style change in reducing blood sugars. However, with yoga it was possible to improve the lipid profile (higher HDL, lower LDL). Detailed data has been published in more than 100 research publications.

A summary of yoga benefits to improve blood parameters is given in Table 1.



Table 1: Yoga benefits for blood parameters



A detailed study of literature revealed yoga benefits for controlling type 2 diabetes mellitus; these are illustrated in Fig. 5.

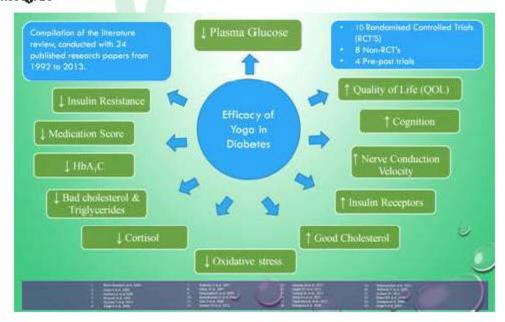


Fig. 5: Yoga benefits to control type 2 diabetes mellitus

Analysis of diabetes control mechanism on 340 patients between 2008 and 2012, is given in Fig. 6.





Fig. 6: Analysis of diabetes control mechanism on 340 patients between 2008 1nd 2012

Follow-up of SDM's Programme.

In a programme named as Madhumeh Mukt Bharat Saptah in the period 2015-16, a programme in coordination with Arogya Bharati, 1500 camps were organized catering to 56000 people across the country. Now Hon'ble Prime Minister of India, Sh. Narendra Modi, had given a call on International Day of Yoga, requested all yoga and spiritual institutions to give hands to work for yoga based life style changes in people all over the country. A committee has been formed to validate propend modules by all yoga institutions subsequently followed by implementation we hope to faunch this programme all over the country on November 14, 2016.



Chapter 5 A move to" Pathy Agnostic": Approach to health and nirogi Bharat

Ashok Varshney

The subject and various opinions that have been emerging out regarding healthy india, I will try to avoid any repetition. There has been a sizable growth of governmental and private institutions in the country to provide health care. However, these services have not reached in several regions.

कुछ लोगों का अनुमान है कि ऐसी लगभग 60% पाप्युलेशन होगी, जहाँ तक नहीं पहुँची है। और वे अपने लोकल, टेडिशनल हीलर्स पर ज्यादा निर्भर करते है।

और दूसरे अर्बन एरियाज में नोन कम्युनिकेबल डिसेजीज का प्रभाव बहोत ज्यादा है। और खास करके के बाद में जैसे जैसे विज्ञान का विकास हुआ है और लोग सुखसुविधाओं के अभ्यस्त हुए है 2000, एन में बढ़ गई है और सबको ध्यान मेंबहोत बड़ी मात्रा .डी.सी. भी आती है। बल्कि में पूरे देश में जाता हूं तो मेरे ध्यान में आता है कि अलग अलग मेडिकल कोलेजिस में एल एस डी लाईफ स्टाईल) स्थापित हो रहे है। और ईसी को ध्यान में लेकर ये जोडिपार्टमेन्ट्स (डिसओर्डर्स हैल्धी ईन्डिया' के बारे में हम चर्चा कर रहे है, तो और एक पहलू ध्यान में आता है कि जितना बड़ा ईसका ब्रोड स्पैक्ट्रम है, वो climatically, seasonally, occupationally, person to person, जैसे जिसकी pharmaco-genesis है, उस हिसाब से vary करती है। और ईसिलये ईतना ब्रोड स्पैक्ट्रम होने के कारण से हमें बहोत generalised way में जाना पड़ता है। लेकिन ईतने स्पैक्ट्रम के बाद भी एक अच्छी चीज है कि व्यक्ति कोई भी एक्टीवीटी करता है तो ईसका ईम्पैक्ट उस एक्टीवीटी पर दिखलाई पड़ता है। उसने छोटी एक्टीवीटी की - 'अब मैं सूर्योदय के पहले उठूंगा' तो उसका भी इम्पैक्ट दिखलाई पड़ता है। तो कोई भी छोटी एक्टीवीटी ध्यान में आती है।

आज की हॉस्पिटालिटी कितनी कोस्टली हैजब मैं सुबह आ रहा था -, चर्चा कर रहा था तो मुझे की 2014 एन आर एच एम की रिपोर्ट पढ़ने को मिली। उसमें जानकारी थी कि आज एक सामान्य व्यक्ति की जो 58 सकाम है उईन्क% उसके मेडिकल एक्सपेन्स में निकलता है। उसमें ओर जानकारी थी कि 40% पेशन्ट्स ऐसे है कि जिसके परिवारवाले कुछ न कुछ वस्तु मोर्गेज करने के बाद अपना ट्रीटमेन्ट करा पाते हैं। और 25% 58% उसके मेडिकल एक्सपेन्स में निकलता है। उसमें ओर जानकारी थी कि 40% पेशन्ट्स ऐसे है कि एक बार अगर उनके परिवार का कोई सदस्य हॉस्पिटलाईझ हुआ तो ट्रीटमेन्ट के बाद वो बिलो पॉवर्टी लाईन पे चले जाते हैं। और ईसलिये यह चर्चा अधिक हुई कि कोई न कोई ऐसे सिस्टम्स आने चाहिये, कि जो अफोर्डबल हो, और कामन में के रीच में हो। अलग अलग 'पैथी' है, जिसकी चर्चा होनेवाली है ही। सामान्य रूप से जिनकी चर्चा नहीं होती, उनकी चर्चा में करूंगा। हम को मिल्ट डायमेन्शनल एप्रोच लेनी पड़ेगी तब हम उस दिशा में आगे बढ़ सकते हैं। होरीझोन्टली भी जाना पड़ेगा,



वर्टीकली भी जाना पडेगा, ट्रायग्नली भी जाना पडेगा। तीनों तरह से करेंगे तो ही काम होगा। होरीझोन्टली यानि अधिकाधिक व्यक्तिओं तक अपनी एप्रोच पहुंचाना। जहां पर कोई भी व्यक्ति नहीं है, अगर हमने उसी गाँव के किसी अच्छे पढेलिखे युवक कियायुवती को एक सेवा के भाव से ट्रेईन्ड-, उसको थोडी सी एनेटोमी बताई, थोडी फिजीयोलोजी बताई, थोडा योग बताया, थोडी फर्स्ट एईड की ट्रेनिंग हो गई, थोडी मेडिसीनल प्लान्ट्स की ट्रेनिंग हो गई, कैसे बोलना है ये ध्यान आ गया- जिसको हम प्रिवेन्टीव आस्पेक्ट कहते है, तो ध्यान में आता है कि वो व्यक्ति बडे जिम्मेदारी से, सेवा के भाव से काम करता हुआ दिखलाई पडता है।

मैं जिस तंत्र के साथ हुडा हूं उसमें और कुछ लोगों कोले लिया जाय -कुछ अन्य संगठनों को -, तो लगभग पूरे देश में ऐसे कार्यकर्ता है 19000, जिसको हम 'आरोग्यमित्र' बोलते हैं। और वे लम्बे समय से काम कर रहे हैं। उनका ईम्पैक्ट भी दिखाई देने लगा है। कितना ईम्पैक्ट दिखाई देने लगा है उसकी छोटी जानकारी मैं देता हूँ, कि ऐसे लोगों ने अपने को तो स्वस्थ बनाया ही है, अपने परिवारों को भी स्वस्थ बनाया, अपने ग्रामों को भी स्वस्थ बनाया। ईतना ही नहीं, वहां पर जो एन्टिनेशनल एक्टिवीटी होत -ी है, उसको रोकने में भी वो सहायता करते हैं। वहां पर जो कन्वर्जन्स होते हैं, अब नहीं होते। ये रोकते नहीं, लेकिन हरेक व्यक्ति को काम मिल गया, एक दूसरे के साथ कोम्प्लीमेन्टरी हो गये, तो वो समस्या खतम हो गई, जिसके कारण से कन्वर्जन होता था। या वो टैरिस्ट बन दिये जाते थे, या बना लिये जाते थे। नार्थईस्टमें ऐसे ज्यादा है। बाकी प्रांतों में कम है-, लेकिन है।

और एक जानकारी सबके लिये अच्छी रहेगी, हमारी एक महिला आरोग्यमित्र है, उसने एक सम्मेलन में अपना अनुभव दिया।

कलकता के पास बशीरहाट जिला है। उसमें काम करनेवाली एक आरोग्यमित्र ने कहा कि, जब से एक साल से मैंने काम करना आरंभ किया है, तब से मेरे गाँव की किसी भी व्यक्ति को डॉक्टर के पास जाने की आवश्यकता नहीं पड़ी। उन्होंने अपने ग्राम में ईस तरह से अवेरनेस का पूरा सिस्टम डेवेलप किया कि पूरा गाँव स्वयं से खड़ा हो गया कि स्वस्थ रहना ही हमारी जिम्मेदारी है। अगर ये अवेरनेस के काम को हमने एक सिस्टमेटिक वे दिया, तो एनज को और विशेषकर जो सुदूर ग्रामों में है.डी.सी., जहाँ सुविधाएं नहीं है, हम हैल्धी ईन्डीया की ओर आगे बढ़ा सकते है।

ईसके अलावा और एक पहलू हमारे ध्यान करने के लिये है। कि जैसे ये हम होरीझोन्टली बढ़ते हैं, वैसे ही हमको वर्टीकली भी बढ़ना पड़ेगा और कुछ ऐसे मोड़युल्स डेवेलप करने पड़ेंगे, कि जिनको देखकर दूसरे लोग प्रेरणा ले सके कि अगर एक ग्रूप अपने को स्वस्थ रख सकता है-वो स्कूल हो सकता है, ईन्डस्ट्री हो सकती है, वो ऑफिस हो सकता है, वो विलेज हो सकता है, वो अपार्टमेन्ट हो सकता है। तो ऐसा जो हैल्धी मोड्यूल है, ये एक दिन में तो नहीं बनेगा। उसके लिये लम्बा समय लगता है, लेकिन कन्टीन्युअस एफर्ट के बाद ऐसे मोड्यूल डेवेलप हो रहे है। और उन मोड्यूल्स में ध्यान में आता है कि, छोटे छोटे प्रकार के सभी टोपिक्स आते है। स्पैश्यली लाईफस्टाईल डिसओर्डर्स उनकी मेईन थीम है, फर्स्ट एईड का



नेटवर्क खडा करना, फर्स्ट एड्ड केवल एक्सिडेन्ट ही नहीं है, food poisoning, drowning, burning, shocking सब उसमें आता है।

मेडिसनल प्लान्ट और एक बडा आस्पेक्ट है। प्रकृति ने हम को ईतने मेडिसनल प्लान्टस दिये है, और आसपासमें हरेक के पास में है कि अगर व्यक्ति ने थोड़ी भी उसकी जानकारी की और उपयोग किया तो अवश्य वह कुछ न कुछ लाभ ले सकता है। और ईसलिये मेडिसनल प्लान्टस के बारे में जानकारी लेना -गिलोय है, क्रीपर है- तो हम नजरअंदाज कर देते है, लेकिन जो उसके जानकार है उनको मालम है कि बॉडी की ईम्युनिटी बढाने के लिये सर्वाधिक सहायक वही गिलोय है-Tinospora Cordifolia ।ऐसे बहोत सारे पौधे है। एलोवीरा तो कॉमन हो गया है। तुलसी भी बहोत कॉमन हो गया है। शतावरी हैबलवर्धक -है, मनुष्यों में भी काम में आता है, एनिमल्स में भी काम में आता है। कुछ ऐसे पैधे भी है, जोअभी -मालन्युटिशन की एक समस्या बताई, जो पूर्वांचल के लोग है या दक्षिण भारत के है, वहाँ सहजन -जिसको मोरिंगा कहते हैं -इमस्टिक्स, उसका बहोत प्रयोग होता है वहाँ पर। अब अकेला उसीका प्रयोग, उसकी जो न्यूट्रीशनल वैल्यू है, वो बहोत अधिक है। वो कितनी अधिक है कि उसमें कैरट से टाईम्स 10 15 टाईम्स कैल्शियम है। बनाना से 17 से हाफ वीटामीन सी है। मिल्क सेवीटामीन ए है। ओरेन्ज टाईम 9 टाईम्स आयर्न है। और योगर्ट से 25 टाईम्स पोटेशियम है। पालक सेस प्रोटिन है। बंगाल में या साउथ में जायेंगे तो वहाँ के भोजन का अंग ही है वो। नोर्थ ईन्डीया में उसका उतना उपयोग नहीं है। मालन्युट्रिशन को समाप्त करने में वह अकेला पौधा ऐसा है कि बहोत वडा योगदान कर सकता है। और ऐसे बहोत सारे पौधे है। बहोत सारे ऐसे सीझनल पौधे है, जो हमको उसी सीजन में मिलते है और स्वास्थ्य के लिये बड़े लाभकारी है। भूअमलकीभूआमला जिसको हम बोलते है -, वो वर्षाऋत् में ही आयेगा । उसे ह्युमीडीटी ही चाहिये। और हम जानते है कि ह्युमीडीटी बढती है उस समय गैस्ट्रोएन्ट्राईटीस के पेशन्ट भी बढ़ते हैं, लीवर के पेशन्ट्स भी बढ़ते हैं। और भूअमलकी उसी के लिये हैं। वो केवल ह्ममीडीटी में ही आयेगा, केवल वर्षाऋतु में ही मिलेगी। ऐसे छोटे छोटे पौधे है। अभी वसंतऋतु आती है, तो ड्रायनेस आती है। पलाश का फूल मिलता है। होली में पहले उसी का प्रयोग रंग के लिये होता था। उसकी सुगंधी भी है और स्कीन के लिये लाभकारी है।

मैं भोपाल में रहता हूं तो वहाँ एक परंपरा मुझे देखने को मिली। विजयादशमी आती है तो लोग एकदूसरे को शुभकामनाएं देते हैं। पिछले साल मैं वहीं था। तो ध्यान में आया कि शुभकामना देते समय लोग कचनार का पता देते हैं। मेरी समझ में नहीं आया कि ये कचनार का पता क्यों देते हैं। तो मैं उसी दिन प्रवास में निकलनेवाला था, तो एक स्थान पर पहुंचा तो मुझे रास्ते में मिलने आये वो मेडिसनल प्लान्ट के जानकार थे। मैंने कहा कि ऐसे ऐसे लोग आते हैं और कचनार का पता देते हैं और शुभकामनायें देते हैं। उसका क्या मतलब है? तो उन्होंने कहा कि ये को कचनार का पता है, वह ब्लोकेड खत्म करने के काम आता है। उसका काढा है वह किसी भी तरह का ब्लोकेड हो तो उसे निकालने में काम में आता है। और उसका एक सिम्बोल है वह कि हमारे और आप के बीच में कोई अवरोध है तो उसको समाप्त करके एक होमोजीनीयस सिस्टम हमें अपनाना चाहिये। तो मुझे लगा कि अपने संस्कृति से जुडे बहोत सारे ऐसे



पहलू ईस पौधे के रूप में भी उपलब्ध है। हम जैसे मनुष्यों को प्रशिक्षण देना पड़ता है ऐसे जानवरों को नहीं देना पड़ता। वो जानते है।

में जयपुर से अल्वर जा रहा था। रास्ते में सिरस्का अभयारण्य पड़ता है। एक हंगेरीयन महिला मिली, जो बंदरों के स्वभाव पर अध्ययन कर रही थी। उसने कहा कि मेरे ध्यान में आता है कि बंदर को खाँसी जैसी होती है तो वो अरड्सा का पता ही खाता है। तो उसका अपना निष्कर्ष था। तो ऐसे मेडिसनल प्लान्ट्स के बारे में हमने जगह जगह ट्रेनिंग प्रोग्राम्स डैवेलप किये, या मोड्यूल्स खड़े किये। तो लोग केवल अवेर ही नहीं होते है, उनका उपयोग भी करते है, दूसरे लोगों को जानकारी भी देते है, और कुल मिलाकर परिणाम आता है कि फिर उनके मेडिकल एक्सपेन्सीस धीमे धीमे कम होने लगते है।

वैसे ही योग, नैचरोपथी – यह भी एक पहलू है। यह भी रहनेवाला है। मैं उसके बारे में चर्चा नहीं करूंगा, क्युंकि डायाबिटीस का एक आ गया। यह भी एक ऐसा पहलू था 'स्टोप डायाबेटिक मुवमेन्ट' का, कि पूरे देश ने उस मोड्यूल को देखा, जिसने उसका पालन किया, फोलो किया उनको ध्यान में आया कि ईस तरह से वह मोड्यूल काम करता है, उसका लाभ मिलता है।

कुल मिलाकर हम होरीझोन्टली ऐसे मोड्यूल्स खडे करते जाये, तो हम देखेंगे कि जगह जगह पर स्वास्थ्य के प्रति एक अवेरनेस आती चली जायेगी। आज उसी की आवश्यकता अनुभव होती है।

और एक पहलू ध्यान में आता है, जिसको हम बोलते है ट्रेनिंग प्रोग्राम्स। कि व्यक्ति कुछ कुछ जानते है। अगर उनको अधिक जानकारी दी गई, बल्क में दी गई, तो वे उसको लेते ही नहीं, उसका पालन करते है। फर्स्ट एईड है। फर्स्ट एइड की नेटवर्किंग होती है, हो भी रही है कुछ स्थलों परकॉल्जिस के थु -, ईन्डस्टीज के थु, विलेजीस में युथ के थु, कि जिन्होंने सिखा उन्होंने आगे जाके सिखाया। और वैसा करने के बाद रेड्डीजीसुरेन्द्र .हैदराबादमें है डॉ -, उनकी कल्पना है कि पूरे क्षेत्र में हर स्थान पर फर्स्ट एईड का जानकार व्यक्ति मिलना चाहिये। कहीं कोई भी घटना-दुर्घटना होती है तो हर जगह व्यक्ति उपलब्ध है। कोई भी दुर्घटना हुई तो फर्स्ट एइड का जानकार व्यक्ति ही सर्वाधिक उपयोगी है उस समय पर, वहीं डॉक्टर हैयह और एक दूसरा पहलू है कि -थोडी देर के लिये तो। तो ऐसे फर्स्ट एइड की नेटवर्किंग करनाया कीजो हमको हैल्धी ईन्डि और ले जायेगा, जो कि बहोत सारे ऐसे लाईफ्स को बचा सकता है, कि जो शायद आज हम उतना नहीं बचा पा रहे है।

रोड्स का नेटवर्क बढ गया, वाहन आ गये, स्पीड बढ गई, एक्सिडेंट्स भी बढ गये। तो फर्स्ट एइड ईस समय सर्वाधिक उपयोगी हो गया है। और इसलिये चाहिये।

एक पहलू और चाहिये, शायद किसी ने चर्चा की थी लेकिन मैं उसको दुबारा मैन्शन करूंगा। आज विद्यार्थी को पाठ्यक्रम के अंतर्गत बहोत सारे विषय पढाये जाते हैं। उसको प्रोटिन, कार्बोहाईड्रेट्स, फैट,ब्लड सब पढाया जायेगा, लेकिन उसको हैल्थ पढाया जाता है क्या? हैल्थ नहीं पढाया जाता। उसको मालूम ही नहीं। जब स्कूल हैल्थ प्रमोशन प्रोग्राम में हैल्ध बताते है तो लोग बोलते है कि ये तो मालूम ही नहीं है। विद्यार्थी और टीचर्स भी बोलते है कि ये तो हमको मालूम नहीं। छोटी चीज है। और ईसीलिये आजकी आवश्यकता अनुभव होती है, कि विद्यार्थीयों के क्युरिकुलम में हैल्ध विषय आना चाहिये। जानकारी के लिये में बताये देता हूं, उत्तराखंड सरकार पिछले दस वरसों से विद्यार्थीयों के पाठ्यक्रम में हैल्ध का



सब्जेक्ट पढाती है। हिमाचल प्रदेश की सरकार ने भी चार साल काम किया था, बाद में उन्होंने उसको बंद कर दिया। तो ये भी एक आस्पेक्ट है कि आज की आवश्यकता लगती है कि हैल्थ ईन्डीया की और जाना है तो हमें हैल्ध सब्जेक्ट पढाना चाहिये।

अभी 'स्वच्छ भारत मिशन' चलता है, तो मैं अपना अनुभव बताता हूँ। मैं लगभग रोजाना ट्रावेल करता हूँ। ट्रेन में देखता हूं कि बड़े बड़े लोग अपने स्थान पर गंदगी करते रहते है, लेकिन छोटे बच्चे केउन्हीं-बच्चे गंदगी को उठाते हैं और इस्ट बीन में डालकर आते हैं। बच्चों पर उसका बहोत बड़ा प्रभाव होता है। अगस्त को बोला तो शायद हमको उतना विश् 15 पिछले बार जब प्रधानमंत्रीजी नेवास नहीं हुआ। प्रत्यक्ष अपनी आँखों से देखा, ट्रेन के अंदर रोजाना देखते हैं कि बड़े बड़े लोग गंदगी करके वहीं गिराते रहते हैं, और उन्हीं के छोटे बच्चे वही गंदगी उठायेंगे और उन्हीं के सामने इस्ट बीन में डालकर आते हैं। वास्तव में विद्यालयों में हमने ऐसे मोइयूल डेवेलप किये तो अगली जनरेशन हैं, उसको हम 'हैल्धी ईन्डीया' की ओर आगे बढ़ा सकते हैं। यह एक बहोत बड़ा स्टेप होगा, कि जो हम विद्यार्थीयों के माध्यम से आगे के लिये बढ़ा सकेंगे।

अभी मैं पिछले दिनों एक पुस्तक पढ रहा था तो मुझे ध्यान में आ गया, 'बायोलोजी ऑफ बिलीफ्स', ब्रु लिप्टननकारी के स्पिरिच्युअल हैल्ध पर उन्होंने ये पुस्तक लिखी है। उसमें से एक उदाहरण मैं सबकी जा-लिये बताता हैं, जो उन्होंने दिया है।

एक दयित को पैनिक्रियेटीक कैन्सर था और ईतना डेवलप हो गया कि डॉक्टरने उसे कहा कि आप का जीवन मात्र दिन है। तो वो ईत 15ना खुश हुआ और बोला कि डॉक्टर, मेरा जीवन दिन है न 15? डॉक्टरने कहा कि हाँ, है। वो खुशीखुशी घर गया और एक बहोत बड़ी लिस्ट बनाई, और बनाने के बाद वो काम में लग गया कि मैं दिन में क्या क्या काम कर सकता हूँ। वो दिनरात उसीमें लग गया कि मैं 15 दिन में कितना अधिक 15काम कर सकता हूँ। काम करते करते कब दिन बीत गये उसको भी नहीं 15 – लिटी ऑफ लाईफमालूम पड़ा और आठ साल तक उसका क्योंउसका जीवन रहा। जहाँ डॉक्टर्सने उसको केवल दी थीदिन के जीवन की ही गारन्टी 15, उसने अपने पाजीटीव अप्रोच से अपने जीवन को और क्योंलिटी ऑफ लाईफ कोदोनों - को अच्छा किया, बढ़ाया।

तो आज वास्तव में ऐसे स्पिरिच्युअल हैल्ध के बारे में भी जगह जगह ट्रेनिंग देना, मोटीवेशन देना-ईसकी भी आवश्यकता अनुभव होती है, जो हैल्धी ईन्डिया के लिये एक आवश्यक पहलू ध्यान में आता है।

ऐसे बहुत सारे छोटेछोटे प्रयोग चलते है, मुम्बई से विशेषकर चलते है। एक 'पथी' ही कहूंगा मैं उसे .डॉ -लाजपतराय महेरा, न्यूरोथेरापी के जनक है, उनका ऐसा मानना है कि शरीर अपने में संपूर्ण है, टोटल है। शरीर के अंदर ही सब कुछ है। कहीं कोई शरीर रोगी होता है तो हमारे किसी सिस्टम में कोई डिफेक्ट आता है। तो एन्डोक़ाईन ग्लेन्ड्स और सर्टन प्वाईट्स पर प्रेशर देकर हम एक्टिवेट कर सकते है। और उन्होंने उसकी एसभी डेवलप की है। उसके ट्रेनिंग प्रोग्राम्स भी डेवलप किये है। और पूरे देशभर .पी.ओ. में उनके सिखाये हुए न्यूरोथैरापीस्ट दिखाई भी पडते है। कोई ओरल मेडिकेशन नहीं है, और परिणाम है



कि बहोत सारे लोग स्वास्थ्यलाभ कर रहे हैं, और बहोत कम पैसे में कर रहे है। स्कील डेवलपमेन्ट में भी लिया गया है।

तो ऐसे बहोत सारे पहलू है- स्वास्थ्य से जुड़े हुए, कि जो सर्वदूर दिखाई पड़ते है, और हैल्धी ईन्डिया कैम्पेन के लिये बहोत सहायक है। ईनको अगर हमने एक रेग्युलर वे दिया, तो अवश्य ही हम सब मिलकर उस दिशा में बढ सकते है और समाज के सामान्य व्यक्ति को एक सेवा के भाव से अगर हमने अवेर किया कि ये हमारा ऐसा कार्य है कि करना चाहिये, ये समाजकार्य है, तो अवश्य हम कर सकते हैं। अंत में केवल एक उदाहरण देकर अपनी बात समाप्त कर देता हूं। ईन्दौर में एक प्लास्टिक सर्जन है -डॉप्लास्टिक सर्जन बहोत व्यस्त रहते हैं। तो भी उन्होंने थोडा समय अनिल गर्ग। हम जानते है कि . निकाल लिया। मैंने पूछा कि कैसे आपने समय निकाला? तो वे बोले कि जिस समय पेशन्ट आता है, और वो तैयारी करता है, और मैं तब तक अटेन्डन्ट से बातचीत करता हूं। अटेन्डन्ट टेन्शन में रहते है तों मेरे से बात करके पहले तो उनका टैन्शन रिलीज हो जाता है। और मेरे से फैमिलिअर होते हुए मैंने 10-मिनट की जानकारी उनक 15ों दे दी, तो मेरे से बाद में भी कोन्टेक्ट करते रहते है। तो लगातार टच में रहने के कारण, उनकों मैं अवेर करता रहता हूं। जितने लोगों को कर पाता हूं, उतना करता हूँ। अभी तीन साल के बाद फिर मिलना हुआ। मैंने पूछा कि आपका वो क्रम चल रहा है? तो उन्होंने कहा, 'हाँ,चल भी रहा है लेकिन और एक काम किया है। मैंने एक लिस्ट बनाई है। 'टेन मिनट्स फॉर नेशन।' एक व्यक्ति दस मिनट भी निकाले तो देश और समाज के कौन कौन से काम कर सकता है। क्यूंकि में डॉक्टर हूं, इसलिये मैंने स्वास्थ्य से जुड़े विषय लिखे है। उन्होंने 250-लिस्ट बनाई है 300। 'और सबको देता हूं कि और कोई ध्यान में आये तो एड करते जाईये।'

व्यक्ति के पास अगर वीझन है और कुछ काम करने की ईच्छाशिक्त है तो अवश्य ही आगे बढ़ सकता है। मुझे लगता है ऐसे छोटे छोटे उपक्रम डेवलप होकर के -जिसको मैंने 'थर्ड डायमेन्शन' दिया थासमाज - पर ईम्पैक्ट डालते है, व्यक्ति को भी स्वस्थ करते है, परिवार को भी स्वस्थ करते है, और समाज भी उससे स्वस्थ होगा तो राष्ट्र अवश्य स्वस्थ होगा। उसको हम 'हैल्ध ईन्डिया' बोलते है। मुझे लगता है ईतना कन्सेप्ट पर्याप्त होगा।



Chapter 6 Patients' Right to Safe and Quality Universal Health Coverage.

Bejon Misra.

1. Introduction

I am deeply involved with the story of "Partnership for safe Medicines" (PSM) India initiative starting from the year 2010. My major focus has been on the arguments that we pay our taxes and liabilities and hence it is our right to ask the way we should be served. We start from here and that is what we started with a feeling of anger in 1983. I was about 30 years of age at that time and today I am 65. I am emphasizing the fact that we need choice and in order to have choice, we work on various issues. The first landmark was consumer protection Act 1986 brought by the dynamic prime minister Sh. Rajiv Gandhi at that time. In this act, all the service provider are completely covered. We started our campaign from there.

2. Building PSM India.

Process of building PSM started with the consultation and re-consultation with the stakeholders, especially the government and consumer / patients group. We had addressed the key concerns about unsafe medicines and access to quality healthcare. We identified individuals and organizations with an excellent track record on its competence and outreach. It was also necessary to ensure their participation in the medicine supply chain and policy initiatives.

Though the government officials were not members of the board, they were always invited to the board meetings as well as in all official activities. We organized joint educational and outreach activities with all the stakeholders and PSM. The resources for organizing events, workshops and training initiatives were co-shared with the central government, trade / industry, Associations and consumer / patient organizations etc.

The other stakeholders consisted of Trade and Industry Associations, Legal Associations, Research and Educational Institutions invited in the various state level consultations and activities.

3. Lessons Learned and Desired Activities

In the process of building PSM, many lessons were learned, which may be useful for building similar organizations. We had put forward PSM India Objectives in an open and transparent manner by engaging with all stakeholders from the beginning to seek support and cooperation with and unbiased and non-commercial motive. A good and vibrant website was created sharing all the view and initiatives. A follow up was made every fortnight with a newsletter in English and Hindi with 20000 + interested parties joining the conversation with diverse interest. Many events were organized on range of health topics, but connect to issues of tackling spurious and NQS medicines in the supply chain and improving access to quality healthcare (universal Health Coverage). A close liaison was maintained with the concerned four ministries, namely Ministry for Health, Ministry for Commerce, Department of Consumer affairs and Department of Pharmaceuticals. Regular events, consultation and studies were conducted in collaboration with the state governments, Industry Bodies and patients' groups. With the support of Medical Council of India, we started working with pharmacy and Medical Education Institutions and the first pilot project was launched on UHC on 9th August 2015 at Mata Anandmayee Hospital Shimla, Varanasi to cover 1,00,000 patients.



4. Advice for Similar Alliances.

To enable the creation of similar alliances, we offer here some advice. PSM should be driven by leadership and interests without compromising on the global best practices and standards. PSM may not be allowed to be viewed as an initiative of a particular cluster or sector with certain exclusive interest. One should avoid in violating issues that are not related to the objectives of the PSM. One should focus on educating the citizens about the risks involved with unsafe medicines and healthcare delivery mechanisms. Let the PSM not look like a club of a few elite institutions or individuals. One should also not ignore the critics or detractors. Always bring clarity on the message and the objective to ensure neutral participation. One should work closely with all major stakeholders like medical practitioners, manufacturers of pharmaceutical products, State regulatory bodies, patient groups and policy makers. One should organize cross border exchange of information to learn from other courtiers on the same issues and also attend international consultations, and seminars to update on Indian scenario. Invite international experts as speakers in various consultations and event to build technical capacity in the country.

5. PSM Progress in India.

PSM in India is an aggressive but well calibrated organization that has led to successful partnerships including all levels of Indian Government. There has been a regular public campaign with regular newsletter, dynamic website and toll free 24 x 7 helpline. Indian consumers finally have the capability to educate themselves on dangers of unsafe medicines and the strength to tackle the menace. Indian government is ready to crackdown on spurious and NSQ producers. PSM India has convinced the GOI to conduct one of the largest survey on quality of medicines with full financial support. A PORTAL has been launched for reporting the activities of the state regulatory authorities with alerts on unsafe / NSQ medicines to the authorized retail outlets for recall and patient safety (http://xIndia.vov.in/login.aspx)

6. The Future

In future activities of PSM India include to connect and empower the consumer. There are more than 900million consumers with mobile phones and more than one billion consumers have access to TV / Radio. We will like to communicate to them:

- Procurement of safe medicines and access to quality healthcare.
- Educating consumers about the adverse reactions from the medicines and unavailability of quality.

Also the PSM India will strengthen the state regulatory and pharmaco-vigilance system and create champions as whistleblowers to report unethical practices and expose the culprit. Also reward the best and honest practitioners.



Chapter 7 Public Health Issues in India: Gaps, Concerns and Way Forward.

Dilip Mawalankar.

1. Introduction

I am happy to introduce our institute, Indian Institute of Public Health, which is a part of Public Health Foundation of India, a national foundation created in the year 2006 and the Govt. of Gujarat jointed this initiative. The vision and idea of this public health institute came from the establishment of IIMs in the 1960's to provide and professionalize management education. Establishment of public health institutes is in some sense reinventing the public health. The credit of establishing public health institutions should go to the British, who established an institute, namely, All India Institute of Hygiene and Public Health, in the year 1920 at Kolkata. In the post independent period public health was forgotten and this particular subject got mixed up with medicine. Efforts are being made now to professionalize the multidisciplinary public health care and manage it separately from the discipline of medicine. There are now five National Institutes of Public Health at Delhi, Gandhinagar, Hyderabad, Bhuvaneshwar and shillong. All these institutions are in partnership with their respective state governments, because constitutionally health is a state subject. In the next 15-20 years, these national institutes are likely to contribute significantly to public health on the same pattern as the IITs & IIMs did in their respective disciplines.

2. Public Health

In India, the idea of public health is not well understood. Though the British had set up multidisciplinary independent public health institutes in India, this discipline was merged with medicine in all medical colleges in a department named as department of preventive and social medicine. The result was not the real practice of public health but simply teaching by doctors. A small number of people still join the public health as city's public health officer or district or state public health officers. However, doctors with a degree of M.D in preventive and social medicine never went to the practice of public health. They instead become teachers in medical colleges. Also, the subject of public heath, being a non-practicing subject, was least liked by the medical students. Nobody wanted to teach this subject as well as nobody really wanted to attend the same. However, being mandated by the Medical council of India, everybody was made to pass the subject and in this manner it got degenerated.

With respect to practicing public health, I would like to cite a couple of examples, where public health history is well known. One of the first clinical trials happened on a ship for scurvy. Scurvy was very common amongst sailors and they used to die on the ship. The captain of the ship James Lind had some idea that fresh oranges and lemons have properties that can cure scurvy. He started with 12 sailors in a group of two each, giving each of the six groups, Chicken soup, regular diet, lemons and oranges etc. The group of two, who was given lemons and oranges showed improvement within 10 days, while the condition of other worsened. Lemon & oranges did not belong to any established discipline of medicine i.e allopathy, homeopathy, ayurvedic etc. As a result of this clinical trial, the British Navy passed a law that all ships carry lemons and oranges. Though the law took ten years, but scurvy disappeared completely from the British ships.

3. Epidemics and Bills of Mortality

Similarly the public health and systems of modern medicines came because of plague epidemics starting in Europe in the 13th century and spreading all over by the 18th century. Followed



by was a close collection of data and reason for all the deaths and finding out about the number of people dying of plague and because of various diseases. Soon a bills of mortality, where the weekly mortality statistics in London used to be collected, was designed to monitor burials from 1592 to 1595 and then continuously from 1603 onwards. The responsibility to produce the statistics was chartered in 1611 to the worshipful company of Parish Clerks. The bills covered an area that stated to expand as London grew from the city of London, before reaching its maximum extent in 1636. Production of bills went into decline in 1819 as parishes ceases to provide returns. However, the bills did find the relationship between the cause and mortality. For example, the outbreak of cholera was diagnosed to originate from water problems in some areas of London by John Snow. This finding brought out the new idea of relating the cause of certain diseases to naturally occurring resources like water, sanitation, unhygienic conditions etc. Certain focused public intervention would have the potential of eliminating certain diseases and will improve public health conditions. This is how the subject of Public Health began.

The famous person, out of all, who compiled the data of mortality of London was John Graunt. He was a seller of buttons, threads and needles. He was neither a doctor or a format statistician.. However, he had some interest in the statistics. He compiled the data on mortality and establishes the cause of deaths in London leading to the development of the discipline of Public Health. The system has evolved in prevention by developing several vaccines against small pox, polio, cholera, diphtheria etc.

4. Environmental Health

Closely related to public health is the environmental health in terms of clean water, clean sanitation, garbage removal etc. Emerging parameters that determine environmental health are air pollutions microwaves, cancer causing radiations etc. Life style diseases as well as diseases callused by consumption of alcohol & tobacco chewing and smoking are on the increase. Almost 25% Indians are addicted to tobacco and it is one of the major causes of disease, disability and death. India needs a system of surveillance to monitor diseases and the cause of the transmittance/occurrence of these diseases. Population controls through family planning, urbanization, effect of overpopulation as well as under population are all part of public health.

5. Health System and Health Organizations

It is very important to organize a health system to achieve universal healthcare. There is a need to introduce R & D in the public health to establish causes of diseases and prevention of their causation and transmission. Health is, however, a state subject. Holistic system of public health is least understood even at the country level. Individual and isolated programmes have been undertaken for diseases like HIV, diabetes etc.; however in totality it is the least understood programme. Even in a country like Britain, British Public Health System has to market itself to make people understand its mandate and function. Our own political masters don't understand the public health systems and often quote that public health people are meant only to fill forms. It is perhaps the fault of public health managers that they are not able to project the importance of public health institutions. People do understand the importance of a nurse or a doctor, but not of the primary health and hence the public health issues. Unfortunately, our national and state level policy makers never understood the importance of primary care. Medical doctors in the primary health care centers are supposed to be involved in only primary disease control and family planning. They manage their programme on the basis of set targets.



The Public Healthcare System in the country is therefore in despair. The whole problem is of misunderstanding and mismanagement. It is often said that there are not enough resources. However, lot can be achieved through better management and fixing accountability.

6. Ailing Public Health System.

The top management of public health is very weak in the country. As an example, we consider the national immunization programme. 27 lakh children are born every year in the country and each child needs five vaccinations. Several dose need to be administered making it the largest vaccination programme in the world. For such a programme, only three posts are sanctioned. Out of these three posts, one was vacant. For this one post I went for interview and experienced chaos. This one person needs to coordinate with the Government, with local administration and implementing agencies. At the state level, it is the same story. Our states are like country or even equivalent to many countries together compare with the population of a few countries. The person in charge can be transferred at the behest of political people or bureaucracy.

Except for the state of Tamil Nadu, public health system, at national or state level, does not have a cadre. For a public health cadre, we need a serviced staff, like IAS or any other public services, selected independently, transparently and trained for public health job. Presently, any doctor irrespective of his specialization can become the Director General. During the period of British rule, there used to be separate Indian Medical services and Indian Public Health Services. Public health services need not be managed by a medical doctor. Anyone with a sociology, psychology or any other discipline can become a public health manager after rigorous training. Also, the training of medical doctors in public health is completely missing.

Another big gap in the public health service management is the absence of a second person in the public health cadre. A second level person presently is a sanitary inspector with graduate degree or 12th pass in science. Between a qualified MD and a sanitary inspector, there is a wide gap affecting the quality of public health programme.

7. Solutions to Improve Public Health

There used to be Indian Public Health Standards that were developed but never implemented. However, in practice we have no system for quality, inspection, certification or closing down of a facility. In UK there are 1000 independent hospital inspectors. If they find a public hospital below certain levels, they are authorized to issue a notice and close down the facility. These inspectors directly report to the secretary of health or whatever is the higher level. We have severe gaps in our public health system leading to non-performance of public health utilities. People have no choice but depend upon private sector, which is having a thriving business.

In order to improve things, we need to develop an understanding of public health at the policy and decision making levels. We need to benchmark. We need more resources in public health and health systems especially for poor people in tribal areas. Creation of public health cadre will improve the things dramatically; opening of several AIIMS like institutions and hospital may not change the situation effectively because they can cater to a very small percentage of population. Prevention of disease(s), hygiene and sanitation are our issues in public health. We need to benchmark our public health department practices with that of the western world. However, we need to strike a balance between affordable care and provision of universal coverage, because the later may become too costly and unaffordable.



Chapter 8 Lifestyle Diseases and Homeopathic Care

Eswara Das.

1. Introduction

The share of communicable diseases in India was 56% in the year 1990 and that will come down to 24% in the year 2020. In contrast, the share of non-communicable disease has may go up from 29% in 1990 to 57% in the 2020. The non-communicable diseases are mainly contributed by lifestyle disorders. It is surprising that diseases like diabetes, obesity, high cholesterol, hypertension etcare hitting more young people in cities in India.

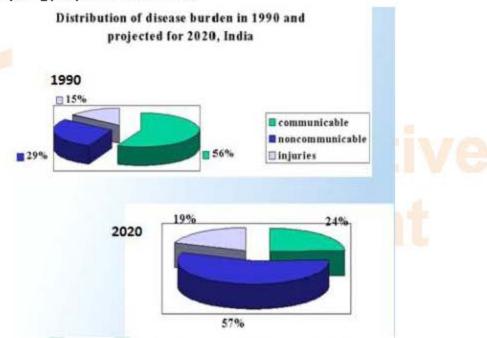


Fig. 1: Burden of various type of disease in India

Despite increasing health awareness, more than half of the people in major cities like Delhi, Mumbai, Ahmadabad and Chennai suffer from diabetes. The top three causes for death in India in the age group of 25-69 are cardio-vascular diseases, chronic obstructive pulmonary diseases and cancer. All these life style disease are a result of our mad race for competing with western countries. Now allergies have become a common disease, increasing use of tobacco and alcohol are creating allergies and asthma. Every government is proposing to reduce alcohol consumption but the sale of alcohol is Increasing rapidly. Symptoms of Alzheimer and sleep deprivation are also on increase. Inspite of the fact the India is country with rich sunlight; many people have vitamin D deficiency and suffer from osteoporosis. Risk of developing all these diseases depends upon the kind of work one does, the environment where the person lives, the kind of food one consumes, physical activity and stress. Industrialization, economic liberalization, invasion of international mass media, expansion of information and communication technology etc are also altering the health of the community. Normal causes for lifestyle diseases also include the habit of eating more processed food, energy drinks, artificial sweeteners, over cooked and non-seasoned food, irregular eating habits and alcohol. Nature and duration of work, exercise and recreation, stress factor and physical activity decide on how early, one is likely to land up in any one of the lifestyle diseases.



Components of Health Care.

Four components of health care are curative care, preventive care, promotive care and rehabilitative care (Fig.2).



Fig. 2: Components of healthcare

We however, tend to concentrate heavily on curative care even the universal health coverage depends on drugs based pharmacology dependent curative care. With this system diseases can be, to some extent cured.

The real challenge for our country is of caring over a billion people. One healthcare structure is overburdened by increasing population. We are faced with the twin problem of continuing / emerging infectious diseases as well as chronic degenerative diseases. The emergence of drug resistant tuberculosis, leprosy and chronic degenerative diseases are the main challenges that we face presently. Added to this is the increasing population with death rate declining to 7.35% but the birth rate is still positive. The death rate in South Africa is 17.23% and in Russia it is 16.23%. Poor implementation of public health programs with increase in life expectancy is a major problem in the country. Improvement in sanitation, health awareness and better medical facilities though have reduced the incidences of communicable and vector borne diseases like malaria, cholera and polio, but life style disorders are increasing both in urban and rural areas. The good news, however is that life style disorders are preventable and many are even reversible.

3. Present Health Paradigm

Present focus in India's health system that has been inherited from the colonial times, is the curative care involving a very large number of institutions. The concerned medical staff in these institutions namely nurses and doctors treat the patients, but provide no advice on preventive and promotive care. Concept of wellness centers in the country has given way for hospitals, dispensaries, polyclinics etc, where a patient with little illness may become a lifelong patient and forced to take medicines throughout his life. Now we have a society with more number of patients than people with wellness. The holistic concept of health as perfect unison of mind, body and spiritual balance has become a preaching point rather than a practical solution. The concept has been there in the first



health policy drafted in 1886. The policy was revised in 2002. Ayush also brought a policy in the same year and is known as Ayush Policy. In the year 2016, a new policy is under preparation. Unless we stress on preventive and promotive care in the draft itself, it will be very difficult to manage country's health conditions. Unfortunately, a disease oriented health care overloaded with emphasis on drugs and pharmaceuticals are deciding the health policies. Compulsion for its implementation has altered the holistic view on wellness to disease oriented patient care services.

4. Facts in Medicine

Every medical system has got something to offer. possibly, India is the most blessed country because we have different streams of medical systems. i.e. traditional systems like Ayurveda, siddha, Yunnani, Yoga, Naturopathy, Homeopathy and conventional medicines. Each of the system has got something great to offer. Definitely the allopathy has completely taken care of infectious diseases and surgical diseases. There may not be much in chronic degenerative diseases which Ayurveda and Homeopathy can take it. Some system has got more strength to treat certain diseases than other systems unless this is put into the health policies through these platforms. The health policies are decided by health ministry or Ayush ministry. They are also not having a meeting point. You take your decision and they take their decision. None of these decisions get integration. Everybody talks of integrated health care. But in implementation level, it becomes only a lip service. Unless there is a integrated health care approaches by bringing the strength of different systems of medicine and offering a cafeteria approach to the patient. Allow the patient to take whatever they want. That will help us to have a better health care delivery system. Most of these systems, i.e. Homeopathy, Naturopathy, Ayurveda, etc. can easily take care of public health issues like Khaasi-Jhukaam, etc. These are all the public health issues. If the community can be taken from preventing common cold are curing within 24 hours, they will not go to bronchitis which will need an antibiotic and long treatment. Earlier it was a dictum that if you have a common cold and don't take medicines, it will go in 48 hours, and if you take medicine, it will go in one day. There is basically no need for a medicine. May be Kaadha, etc. locally available medicines can cure it. Secondary complications are more serious. We are opening up more medical colleges which are meant for tertiary care. More and more All India Institutes are coming up. That is good, but what is happening is- whoever has Khaasi-Jhukaam or allergy, reaches directly to All India Institutes. So, the All India Institutes have become primary health care centres than tertiary care centres. That imbalances the requirements of health sectors. It creates cost- escalation, overburden, etc. We don't go to primary health centres where 20 doctors are there because the medicines are not available.

Every public health concerns with these three things: Safety, efficacy and ethics. And now I am coming back to what is holistic health care. It is a philosophy of treating holistically based on mind, body and life force in relation. We consider the mind, body and life a force. We call it vital force. Health is considered a perfect state of harmony of functions in mind, body and life force. Illness is often a result of disharmony. I think, this is common in almost all the vital system, not only for Homeopathy. The disharmony may come from dysfunctions of any one or either mind, body and spiritual approaches. Holistic health care believes that a dysfunction affects the whole person and not any part of the body. Holism promotes that human beings must be treated together to achieve feeling rather than simply treating a patient for specific illnesses.

5. Homeopathy.

Homeopath is a dynamic, holistic and vital system of individual drug therapeutics, based on laws of similarity. It has the potential capability of curing diseases and relives symptoms of incurable



one. Homeopath is 200 years old science. Homeopathy is very simple and vital system. It was originated about 200 years back. The most important part in the homeopathic treatment is the individualistic approach. It is more important in chronic diseases. The person with the disease is identified. In acute diseases, it may not be important. It treats the patient by considering the mental, physical, emotional and spiritual attributes of individual characteristics along with disease symptoms. That is why when you go to a homeopathic doctor; they take all details of you- from birth to family history, personal history, method of sleeping, eating, drinking, etc. They ask lot of questions to identify the individual nature of the person. It is important to the need of the sick and provides the customised care. Understanding the patient is the corner stone of homeopathy as it shows strength in curative care, preventive and promotive care. The homeopathic doctor goes into the feelings, emotions, behaviour, personality, psychological setup of individual, etc. and lot of questions they ask. Many of them may be irrelevant but for doctor, they are very important.

When a person takes a right homeopathic remedy, it not only cures that disease, but overall immunity of that individual is boosted. That is why we call it a constitutional treatment. When a constitutional treatment is given, it not only cures the disease, but also facilitates the person's recovery from other ailments. If we treat the common cold and tonsilitis in younger age with constitutional medicine, they will get prevented from complications like Asthama, chronic bronchitis, etc. at latter age.

In the medical philosophy of homeopathy, the curative care is done through similia and the preventive care is done through an approach called genus epidemicus. We have a special approach of identifying preventive medicine. A particular medicine is not always available for prevention of diseases. We identify that medicine for particular epidemics which is called genus epidemicus. The constitutional treatment is given for promotive care. Homeopathy accepts the malnutrition but goes little beyond that. We consider that many of the problems are mal-absorption. There is a malabsorption component which is not taken care in existing health parity. Malnutrition is there where nutritional supplements are required. Those who are getting the nutritional supplements adequately and even then if they are not able to absorb that, then that is a main problem. It is not recognized in modern medicine. Malnutrition and mal-absorption are different things. Unless the mal-absorption is corrected, the malnutrition problem cannot be controlled. This is where Ayush is again important. Ayurveda has a concept for malnutrition, homeopathy has got concept of mal-absorption. Certain things are required like brisk walking, regular yoga practices, preferring natural food, avoiding self medication, etc along with the medicine. If these diseases can be identified earlier and treated properly through a proper homeopathic treatment through constitutional medicine, many of these can be treated. But, my conclusion is that: It is not whether you use Homeopathy, Ayurveda or Allopathy unless you bring all the systems together, unless you bring all the medical colleges together, unless you bring all the medical professions together and give a common approach in tackling the lifestyle disorders, we are not going to achieve total healthcare. With one system or one medical college or one approach, you will not be able to achieve disease free India. There is unique strength in all these systems. Yoga is becoming very popular. But Yoga has to be promoted. But how many people are going to use that on regular basis? There is percentage of people who can offer time or devotion for that. There may be different approaches in homeopathy, ayurveda, yunani but this is a simple fact that we have 439 medical colleges, ayurveda colleges, 191 homeopathy colleges, none of these colleges are linked in the public health program. You should take note of this that allopathy is the only system good for public health. Every system has got something. There are 6 lakh practitioners in Ayush system. They are not taken consideration in considering the doctor-patient ratio. These are all important in



bringing change of health sector

6. Conclusions.

Homeopathy is a distinct medical specialty capable of curing several clinical conditions as standalone treatment option. Homeopathy is also used as an adjunct along with other therapies for a variety of other clinical conditions with success. Advantage of homeopathy over other CAM therapies is that it is practical all over the globe. It is based on verified principles with literature available in modern language. Homeopath has strong professional bodies recognized by respective governments and there is a viability of pharmacopeia, regulated education and conducting need based research. The need of hour is to effectively integrate homeopathy in the health care delivery systems to tackle the menace of disease for which there is dearth of treatment in other system and also for disease for which homeopathy has more strength.





Chapter 9

Novel Approach to Treat Intractable Water Problems with Homeopathy: A Low cost option for Masses

Anirban Sukul.

1. Introduction

The name arsenic itself is derived from the Greek word 'arsenikin' which means potent. Arsenic was one of the seven metals known to the ancients. Although there is nothing like "Arsenic Age" the king of poisons has probably influenced human—history more than any other element or toxic compound. Arsenic is found with other metals in natural mineral deposits. Forms of arsenic can be organic or inorganic. The inorganic form has the most toxicity. Many inorganic forms of arsenic came from industrial and agriculture waste. It also occurs naturally in soil and in many minerals and ores that contain copper and lead. When heated, arsenic rises as smokestack as fine dust. Arsenic is used to pressure treat wood; It however can't be used in agriculture. Arsenic is found in water as a pollutant. Organic arsenic is found in marine organism. It has more uses than inorganic arsenic. Its use in agriculture is in the primary cotton. When added to an alloy or metal, the properties of the same improve. Other uses of organic arsenic are in lead acid batteries, semi conductors and LEDs. Arsenic III is found in water as a pollutant.

2. Arsenic Poliution in Water

Documented cases of arsenic problems in ground water are related to natural contamination. Cases include some of the major mining and geothermal occurrences reported in the literature (www.bgs.ac.uk/arsenic/bangladesh). As shown in fig.1, arsenic pollution is a global problem and found in almost all the continents.



Documented cases of arsenic problems in groundwater related to natural contamination. Cases include some of the major mining and geothermal occurrences reported in the literature.

http://www.bgs.ac.uk/arsenic/Bangladesh/

Fig. 1: Arsenic is a global problem

On the western parts of the world — United States, Argentina to Hungary, Romania, China, Taiwan, India and Bangladesh are all affected.



In India, the first reported case of arsenic contaminated ground water was detected in the year 1978 in West Bengal and first case of arsenic poisoning was diagnosed in 1983 by the School of Tropical Medicine. Chemical analysis of ground water of the respective areas, where most cases of arsenic poisoning were detected, was found to contain arsenic beyond permissible limit of 0.05 mg/l. As per the BIS for drinking water (BIS 1991, and subsequent modifications) maximum permissible limit of arsenic concentration in ground water is 0.01 mg/l.



Fig. 2: Arsenic in ground water in West Bengal

Fig. 2 shows the state of West Bengal, where Arsenic is in abundance in the ground water. It is not a man-made situation of poison for us. It's a nature's choice that it has made it so. There are some specific areas, unfortunately West Bengal and some other several states of India. 12 districts of West Bengal have been largely affected with the poisoning of Arsenic. In terms of population, more than 35% population in the high risk zone is in the threat of Arsenic related disorders. There is also Fluoride, that has been found in water samples of 3 districts of West Bengal, causing Flurosis and crippling diseases in these districts.

3. Arsenic Toxicity

Arsenic toxicity was observed in various types of skin manifestations. This includes Melanesis, keratosis, hyperkeratosis, dossal keratosis, non-pitting edema, gangrene and cancer. Several studies have examined the relation between arsenic exposure and adverse pregnancy outcome including abortion, pre-mature births, still births, low weight birth, neonatal and prenatal mortality. Infants and children are more susceptible to the adverse effects of toxic substances than the adults. Prolonged intake of arsenic polluted water may leads to severe health problems. Often garlic odor is present in breath and body tissues. There could be gastrointestinal (GI) problems like hyper salivation, abdominal pain, vomiting, and diarrhea leading to hypo-volumic shock. Trivalent arsenic may cause oral burns, dysphasia and GI bleeding. Arsenic can also cause cardiovascular problems like ECG changes including ST segment changes, prolonged QT interval, ventricular tachycardia, ventricular fibrillation. Prolonged

Arsenic contaminated water can lead to gangrene of extremities, respiratory and pulmonary



distress, renal and hepatic hematuria, hepatomegaly, pancreatitis, neurological CNS depression, encephalopathy and coma and selzures. Also haematological complications like acute haemolysis, bone marrow suppression and basophilic stippling and revieaux formation can occur.

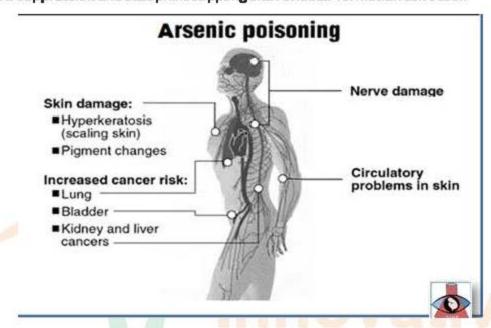


Fig.3: Danger of arsenic poisoning

Fig. 3 shows the danger of arsenic poisoning in a human body. The workers who work in mines, smelters and wineries, they are very exposed to arsenic contamination because of dust. There are social problems which are related to villages where arsenic is present abundantly. The wives are sent back to their parental home if they suffer from arsenic poisoning. Marriages of either sex who are affected by arsenic are very difficult. Jobs for such people are not available. Several social problems arise that break the very social fabric.

The workers who work in the mines, smelters and wineries, they are exposed to the Arsenic contamination through dust by skin contact or inhalation and ingestion also. There are some social problems which are related to the villages where Arsenic is abandoned as poison. The affected wives are sent back, sometimes even with the children to their parents. The marriages of people, living in the affected villages is very difficult. Jobs cannot be given, and when husband or wife is singled out as an Arsenic patient, the social problems crop up and may destroy the social fabric. It will lead to depression and sometimes, suicidal activities. Now, since it is a problem of ground water, agricultural irrigation when this kind of water sometimes used. They take the ground water to irrigate. So, from this part of agricultural field, Arsenic is taking part into the food chain. So, it may come to the rice, soup, kadhi, and even in tea, where water is being used. It may have found that Arsenic poisoning slowly started and thereafter even takes 40 years or even more to come up with the symptoms, even less than that. But, as much as 40 years, it can take. So, this is basically what is happening after the Arsenic poisoning. When it comes into the blood plasma, then enzyme arsenic is converting Arsenic 5 to arsenic 2 and then another enzyme methyl transfer is to MMA-5, the MMA-3 and then DMA-5. So, all it comes through the methyl transfer is enzyme acting in the lever. And from DMA-5, it becomes the inorganic Arsenic, which is potent toxic and you can see this Inorganic Arsenic is 10 to 20% and it is being excreted out through urine. So, 80 to 90% you can say, this has been absorbed by the liver. And, it is there in our body. And you can not excrete it out. Arsenic is a metalloid. So, it cannot be destroyed. It



is there in the body. It can change the form from metals, because most of the Arsenic is combined with the Iron and slowly when it comes into the contact, it can dissipate as separate spices.

Since arsenic is present in ground water; if used for agriculture arsenic finds its way in to the food chain.. Arsenic poisoning may be slow and may show up after many years. Once present in blood plasma, then enzyme arsenic is converting arsenic 5 to arsenic 2 and then another enzymes transfers to MMA 5, the MMA 3 and then DMA 5. From DMA 5 it becomes the inorganic arsenic which is a potent toxic; 10 to 20 % is excreted through urine and the rest is absorbed by the liver leading to several kinds of diseases.

4. Mitigation Approaches.

It is important to control arsenic, beyond the permissible limits in drinking water. One may dig deep tube wells free from toxins. Rain water collection and its use as drinking water is another alternative. There are certain plants that remove arsenic from water. There are some popular arsenic removal processes from the ground water. There are several arsenic removal processes namely precipitation process, adsorption process, ion-exchange process, iron-removal process, membrane process and POV/POE devices. Effectiveness of some of these processes is given below:

Process	Sub proces <mark>se</mark> s	Removal	
Precipitation	Copulation/Filtration 95%		
, and the second	Lime softening	85% +	
Adsorption Activated Alumina		90%	
	Iron Media	90%	
Ion-Exchange		95%	

The metabolism of the Arsenic is mainly into the liver. It damages liver and since it is excreted out with the urine, it damages the kidneys. In the laboratory, there are animal studies. But one cannot predict human poisoning from the animal studies because animals are more tolerant to the Arsenic poisoning from 4 to 100mg per liter. Still they did not show any increase of cancer.

5. Homeopathy Approach

As far homeopathy approach is concerned, there are some antidotes for arsenic. These antidots can be used when arsenic is in acute poisoning. These antidotes are opium, carboveg, china, hepar sulph and Nux vominica. In general, there is not specific doze for arsenic poisoning individuals are treated based on symptoms. The medicines used for example in arsenic contaminated patents having skin symptoms are follows:

Sulphur-Itch, dryness, burn, scratch, bleeding, relief by cold water

Graphites - itch, discharge, burn, oozing, bleeding

Sepia- itch, dryness, blackish, small desquamation

Merc sol-eruptions, ulcer with irregular margins, offensive discharge, little pain, little itch

Kali sulph-itch, dryness, large desquamation, profuse, may turn into inflammation, burning

Psorinum-itch, burn, dry, crusty eruptions, extreme sensitiveness to cold

Lycopodium-itch, dry, worse warm application, bleeds easily

Thuja-dry brown spots, itch, eruptions



Arsenic alb-burn, relieved by warm application, itch, oedema, ulcer, gangrenous

Chelldonlum-Pain on liver region, jaundice, loss of appetite, nausea, vomit, distended abdomen

Carduus m- pain in liver on the left lobe, enlarged liver, constipation alternates with diarrhoea, nausea, vomiting of green, acid fluid, cirrhosis, jaundice

Bryonia- swollen liver, sore, tensive, burning pain, jaundice, nausea

Natrum sulph-hepatitis, liver sore to touch, painful, billous vomiting,

Carbo veg- contractive pain on liver region extending to chest, flatulence, belching, nausea, burning in stomach, tarry stool.

Lycopodium-hepatitis, fullness of abdomen, pain in liver

Magnesia mur- pressing pain in liver, enlarged, loss of appetite

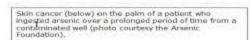
Some cases of Skin Problems.

At the end I present a few typical skin conditions caused by prolonged use of arsenic contaminated water. Each patient is treated as per symptoms and there is not one remedy for arsenic toxicity that manifests itself in various forms and in various parts of the body.













Chapter 10 Medical Devices: Integral Part of Make in India

Sanjay Shah.

1. Introduction

Subject of medical devices is the only subject in this seminar, which has no alternative system. There are two kinds of equipments that are covered under medical devices, namely (i) diagnostic and (ii) actual medical devices like orthopedic implants and cardiac stents. MRI, X-ray machine or simple tongue depressor or thermo-meter etc are all medical devices. Let us discuss about the impact of Make in India or Made in India for medical devices on healthy India campaign. Make in India is an open call for foreign investors to set up manufacturing industry in India. It is basically a tag for the campaign of the present government. The end result will be that India will be dominated by overseas global corporate and they will take all the parts while they create jobs in India paying low wages to the Indian workers. On the other hand "Made in India" applies to a product that is fully produced in India, whether Indian or foreign corporate.

With reference to "Make in India" approach and its impact on Healthy India, can the medical devices be made affordable to large majority of Indian people. Will these medical devices be at par with the technology and devices available in the World? Will these be available as and when and there required?

2. Medical Devices.

Medical devices range from simple tongue depressors and bedpans to complex programmable, pacemakers with micro-chip technology and laser surgical devices. In addition, medical devices include in vitro diagnostic products, such as general purpose lab equipment, reagents and test kits that may include monoclonal antibody technology. Certain electronic radiation emitting products with medical application meet the definition of medical device like diagnostic ultrasound product, X-ray machine and lasers.

In general, therefore, the medical device means any instrument, apparatus, implant, machine, reagent for in vitro use, software, machine or similar items intended to be used by manufacturer for medical purposes or for direct use on human beings for diagnose, prevention, monitoring, treatment or alleviation of diseases or to treat injuries or for life supporting purposes.

3. Healthy India, Technology and Regulations.

The challenges for Healthy India, with respect to medical devices, are affordable price, quality, and technology and device design comparable to the best available in the world. There are various challenges that need to be faced by the prospective manufactures of medical devices. These are

- Archaic regulatory compliance rules or no rules.
- Inadequate quality standards.
- Unfavorable tax structure; Import is, more economical
- Lack of local knowhow and talent.
- Unorganized Indian Market
- Little exposure of patient about the quality of medical devices.



With respect to standards, there are hardly any standards for medical devices in the country. Most important part of medical devices, even today, are considered under "Drug and Cosmetic Acts and Rules. In the year 2006 an exercise was started by the CDSA office to define the medical device. Nothing has happened till date.

The modified drugs and cosmetic act which included medical device kept on moving from parliament to PMO to the enlightened ministers. I think GST and other are more critical than healthcare regulations. It is still lying. We have no standards. In 2002, I was a consulting a company where we made the drug eluting stents which got a European recognition in 2004 as the only fourth drug eluting stent which was allowed or permitted to be sold in Europe. When we went for a final submission in an interview, the first question by the regulators in Europe asked, 'Are you really coming from India? You think you have planned to manufacture this or you have just faked it somewhere and come here?' It took us 15 days with lot of lobbying around with very key opinion leaders and doctors and surgeons to tell them that, 'yes, it is made in a company in India. It's made in a plant in India. It's done with an Indian technology. And we vouch for its clinical trials. So probably that impression still goes on the world over as far as the Indian capabilities of medical industry is concerned. We have one of the world's best IT. But still we don't know our software are not validated as far as the medical device is concerned.

Our standards were set by bureau of Indian standards specially. They started with the orthopedic implants. The standards which are 20 years old and all the standards which are made by BIS-the design, and the material used- all have become obsolete for 20 years. And when we specially called the director of BIS to one of our meetings where the secretary of the health was also there, they asked him why are you not improving the standards? They said it was under the drug and cosmetics act. Why should we waste our time, because our standards are not going to be accepted? And the world over, the standard is international standard organization. So subsequently the talk went. For another 5 years we kept on fighting for having standards. And when we talked out the standards on medical devices to be implemented by bureau of Indian standards, somewhere along the line, another country comes along and says, 'no, no. those European and ISO standards have no meaning. You go for CFR and American standards.' So we are still in the limbo. So there is nothing like quality and safety about it which is to the people in India. I've heard from the orthopedic surgeons who are friends of mine that early parts-say 5-7 years back, if rod is put into a patient's leg, the rod may bend if the patient puts too much weight on it and there is nothing anybody can do. Because there is no law, no restrictions and no guideline the decision therefore is with the doctor else what to do. Even today, there may be only 5 % of the orthopedic implant manufactures who have really taken the license though it's covered under the drug and cosmetics act. Rest of the devices, are still being manufactured in places as small as automobile garages.

4. Regulatory Mechanism.

Medical devices, that should be available to people in India, need to be safe, affordable and appropriate to the need of Indian physiognomy. These devices from a very special and different kind of products and therefore require different regulatory environment than drugs due to their inherent different characteristics. Medical devices are complex and may suit only certain group of individuals. Like in AYUSH, that look for specific and independent identity, the medical devices need careful group selection for standards and regulations.

The Ministry of Health and Family welfare under Gazette notification S.O 1468(E) dated 6th



October 2005, declared the following sterile device to be considered as drugs under section 3(b) of the Drugs and Cosmetic Act 1940.

- Cardiac stents
- Drug eluting stents
- Catheters
- Intra Ocular lenses
- I.V cannulae
- Bone cements
- Heart valves
- Scalp vein set.
- Orthopedic implants
- Internal prosthetic replacements

It was also notified vide GSR 627(E), dated 07.10.2015, that control over, manufacture of all these devices would be exercised by Central Licensing Approving Authority i.e DCG (I) under the said rules. The Ministry for Health and Family Welfare has approved the procedure to be adopted in respect of Licensing of import as well as manufacture of all these Medical devises in the country.

5. Suggestions for Implementation

Medical technologies for drugs, biological use and devices are converging and becoming interdependent. So far the regulatory mechanism differ as for drugs and medical devices illustrated below.

Drug	Medical Device
Clinical trials required	 Clinical trials often unnecessary, design verification and one stage trial required.
Phased clinical trials	 Unstayed clinical trials Schedule Y may need changes.
 Randomized double blind clinical trials, sometimes, with placebo 	 Often unfeasible and / or unethical to attempt double blind clinical and / or placebo trials.
No explicit risk based stratification.	 Risk based classification in four classes. Intended use to be well defined and classification to be agreed upon by manufactures regulation.
 Emphasis on kinetics, metabolism & eventual absorption & deposition in body. 	 Emphasis on interaction with the body and possible failure model.
Generally stable formulation	 Rapid frequent changes. This would imply either re-registration or a threshold of change to be defined.
Good manufacturing practices.	 Quality management systems(ISO 13485). Regulation over device life time.

The suggestions for implementation for regulating mechanism for medical devices are therefore:



- Cover all medical devices and their manufacturers in a phased manner.
- Harmonize medical device regulation as per GHTF to the extent possible at the same time regional needs required to be taken into consideration.
- Quality standards need to be current.
- Creation of public awareness.
- Need for appropriately trained regulators to handle licensing / registration process due to differences between drugs and devices.
- Define definite time line for state wise implementation.

Time line can be decided on the basis of desired regulatory mechanism for devices as given in the table previously.





Chapter 11 " Project Ayusham" 'Trajectory Therapeutics To Therapy Focused Treatment Approach'

Sanjeev Acharya

1. Introduction

In order to make a policy for healthcare system, one needs data. In India, the exact information is either not available or available in patchy form. The same is true for per capita healthcare expenses (Fig.1).

Per Capita Healthcare Expense:

\$4,115 \$4,569 \$636 \$4,847 \$4,361 \$4,920 n/a \$2,232 n/a \$3,713 \$5,131 \$3,855 \$6,170 \$2,881 \$5,153

http://international.commonwealthfund.org

Fig. 1: Per capita healthcare expenses in various countries

Fig.1 shows that US spends \$ 9086 for every citizen annually for his healthcare. These investments drive the pharma industry. Global business of health care in the whole world is 2.2 trillion dollars (Fig.2).

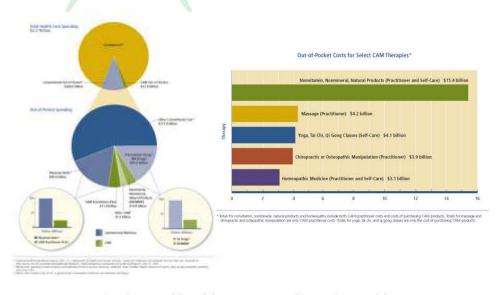
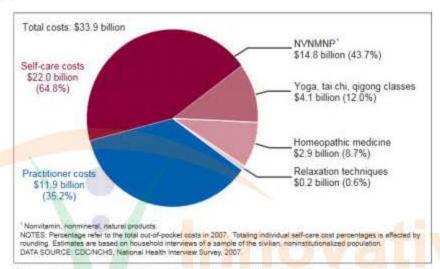


Fig. 2: Total healthcare expenditure in world



Out of this 268.6 million dollars is spent on alternative system of treatment because of peoples' choice. Total CAM (Complimentary and Alternative System of Medicines) contributes 33.9 billion dollar today, in that US (Fig.3) is a significant amount. Out of this amount homeopathy is 3.1 billion dollars; ayurveda being insignificant at 0.1% of CAM. On the other hand, acceptability and popularity of Yoga is growing. We need to, however, make more efforts for adequate solutions for chronic symptoms.



Figure, Out-of-pocket costs for complementary and alternative medicine among adults aged 18 years and over: United States, 2007

Fig. 3: Out of pocket expenses for alternative medicines in the United States

Nearly a quarter of physicians in the US are not required to care for frall and chronic patients. There is therefore a need to work for treatment of chronic conditions, where India because of her knowledge in Yoga and alternate medical system, can play a leadership role.

Physician Survey Data.

The 2015 Commonwealth funded survey of 11 nations found that nearly one quarter of primary care physicians in the United States are not prepared to care for sickest and frailest patients. The findings suggest that US may need to do more to strengthen primary care and employ new ideas proven to be effective in other countries. Physicians however, feel that there is an improvement in the quality of care that the patients receive in their receptive countries. Illustrative figures are given in Table 1.

Country	% Improvement	Country	% improvement.
Australia	24	Newzeland	32
Canada	25	Norway	33
France	12	Sweeden	13
Germany	15	UK	22
Netherland	21	USA	26

Public opinion about a fundamental change required in the current health systems is given in Table 2.



Table 2: Percentage of public agrees for fundamental change in health care system in their respective country.

Country	% improvement	Country	% improvement.
Australia	43	Japan	N.A
Canada	50	Netherland	44
China	N.A	Newzeland	45
Denmark	N.A	Norway	42
France	49	Singapore	N.A
Germany	48	Sweden	46
India	N.A	Switzerland	40
Israel	N.A	Great Britain	33
Italy	N.A	United States	48

3. Role of Complementary and Alternative System of Medicines (CAM).

Geriatric population, as an example, is more susceptible to chronic diseases like heart problems, joint disorders hypertension etc. This population group therefore needs regular medicines and care to keep the disease under control.CAM has been successfully used in the US with Yoga being more popular amongst the adults (Fig.3).

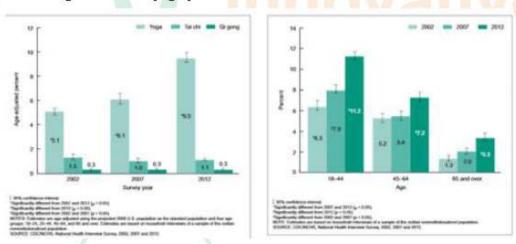


Fig 3: Use of Yoga, Tai Chai and Oi gong in the US population

4.0 Indian Health Sector

India was the sixth largest market globally in terms of size in the year 2014 and it is expected to reach amongst the top three healthcare markets in terms of incremental growth by 2020. Healthcare is one of the fastest growing industries in the country and expected to advance at a CAGR of 22.87% during the period 2015-2020 to reach US 280 billion dollars (Fig.4)

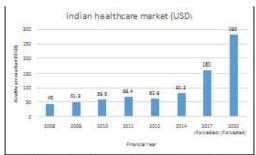


Fig. 4: Indian Healthcare Market



Rising income levels, ageing, population growth, health awareness and changing attitude toward preventive healthcare are to boost healthcare service demand in future. India has lower cost of medical services than most countries of the world. There is therefore a rise in the medical tourism attracting patients from many other countries. Due to low cost of clinical research, India has also become a huge hub of R & D centers for international players. Indian government aims to develop India as a global medical hub by reducing excise and custom duty, strengthening existing laboratories and developing more state of art laboratories in the bio-medicine sector.

India's strength lies in plethora of traditional knowledge. We are the only country where all systems of CAM are officially approved. The cost of medical treatment is lowest in the world and there is ready availability of doctors for appointments. GDP of India is growing and experts are available in all disciplines of health care.

Ayusham

Integration of modern system of medicine with the alternate one is the basic principles of AYUSHAM. It considers traditional allopathy, ayurveda, yoga, homeopathy and Unani. Philosophy of each medical system of Ayusham is explained in Table 3.

Table 3: System of medicine of Ayusham

Philosophy of each medical system of AYUSHAM

Madical system	County	Transmerk
Approveds	Imbalance of Vice, Plos and Kapha	No combiliting the capillianes between three donne
Nep	Clieurbance in Kossa of the heaty	Yeres, Hilyanes, Asses, Postsyanes, Protodess, Charmo Dhysics, and Sannailli continued with disc modifications with assural floods which cure flooress by affecting the various boses.
UI	inisteen interes four learners plings, binni, yeller ide and black ide	The three-light approach is all minution of course numericalism of humans and of these and organic
	irola laucus instanum vetarra, pittiem arei kapitaan	Pethys and Apathys —s list of sixts and dest'ts including that, Budgle and medicines is prescribed for care
-	Disturbance in spiritual vital force of the body	Smills similare consists— polysioness which product symptoms similar to the allocate—are small to allocate arranges on a sure for the allocate.
Allegachy	Alterative at the head of the cages bandoni, its structure or function	Drugs containing archaects which constraint the effects of the change at the collectricity can cure the change.

Barra Miragrassa G. Seith C. Mahairanaing APAT, on airing anglair, india Japani of Mahai Mila PAG Calabar Sreaming JAC

A comparison of various parameters in Ayush is given in Table 4.

Table 4: AYUSH and Allopathic treatments

Comparison of Allopath development with AYUSH:

Sr. No.	Parameter	Allopathic medicine	Ayurvedic medicine	Homocopathic medicine
01	Cost	Very expensive	Moderate	Affordable
02	Compliance	Fair	Good	Better
03	Side Biffects & Caution	Almost every drug has side effects	Herbals do not have side effects. Metalic preparation may be used with caution	Mest safe. Nosodes & high potencies may be used under guidance of professionals
04	Texicity	Case be found in many cases	Almost NIL	No toxicity
05	Drug residue	Found in milk, meat, egg	May be found if given in high dosage	No drug residue
06	Trentment Approach	Single Target, single drug	Multiple Target, whole sum Approach	Multiple Target, Like treats Like Approach
07	Green process of manufacturing	No	Yes	Yes



The objectives of AYUSHAM are to improve the healthcare status in most burden, some diseases of the era, provide the patient preferred service to improve and maintain healthy life, provide treatment to eradicate or control a disease at affordable costs, fill the gap between various systems of medicine and making it patient centric and to develop a business model to fulfill the said objectives. The implementation network of AYUSHAM centers is provided in Fig. 5.

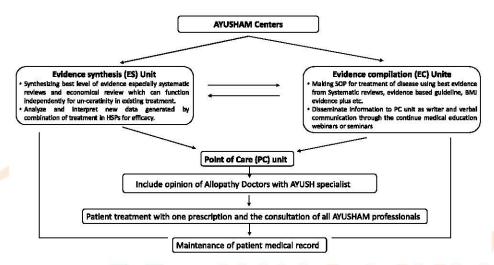


Fig. 5: Ayusham Centres

There are various strategies that are required to strengthen AYUSHAM. A few strategies are:

- Integrity and mainstreaming of AYUSH with allopathy in the current public health care system and national health programmes to lead towards identifying chronic diseases and conditions.
- Establish statewide AYUSHAM specialty centers.
- Facilitation of GLP norms for AYUSHAM system and reporting of each case with ethical open clinic trials. Strengthening the standardization of therapy and publishing the successful cases with all evidences monthly as a scientific journal.
- Keeping free treatment for initial phase.
- Sectoral linkages wih DCGI office, Health Ministry and AYUSH ministry.

5. Major Challenges for AYUSHAM.

AYUSHAM is a better alternative for current Indian medical system. However, the major challenges that are faced by AYUSHAM are

- > Philosophical challenge
- > Prohibitive cross practices
- > Consistency in the protocol of chronic condition.

Philosophy of every medical system, namely, Ayurveda, Yoga, Unani, Siddha, Homepathy and allopathy, has vast differences from each other. Approach to diagnose as well as to treatment varies enormously. Unless every system is ready to evolve, gaining strength from each other, integration is



difficult. Ayurveda and Siddha system derive the knowledge from tradition based wisdom, not supported by body of evidence as understood by a practitioner of allopathy. These differences in approaches of treatment of an illness should be kept in mind for the development of AYUSHAM centers.

Cross-practice of treatment has been prohibited by the supreme court of India. In the medical code ethics of the Medical Council of India 1.1.3, it is stated "A person qualified in any other system of medicine is not allowed to practice Modern System of Medicine in any form" AYUSH practitioner are using allopathy medicine in several states like in U.P, Chattisgarh & Bihar. Implementation of AYUSH may therefore resolve the issue of cross-practice.

6. Framework for AYUSHAM

For the development of AYUSHAM in Indian medical system, following ethical criteria play the following vital role:

- i. Doing good for patients
- ii. Doing no harm to patients
- iii. Truth telling not magic medicine
- iv. Informed choice of patients for enrollments
- v. Mutual respect and trust amongst CAM and Modern Medicine.
- vi. Insurance Coverage.
- vii. Disease Progression Evaluation

Good defines the quality and standard, better medical care, management of common minor ailments and revitalization of traditional system. Goods are accrued to the community at large, not only for individuals.

The truth however is that treatment for relief of acute symptoms is more successful by an allopathy rather than by an AYUSH doctor. If the whole CAM is practiced in AYUSH, then it is possible to do the same in this discipline. The choice of treatment should be an informed one and the type of treatment should be left to the patient. It may be possible to evolve a system of joint consultations for the benefit of a patient. There is a need for mutual respect between the practitioners of allopathy and AYUSH. Even amongst the public, there is a trust deficit about AYUSH. We need to define a clean role for the practitioners of AYUSHAM. It is necessary to build a strong traditional knowledge database and evidences for AYUSH remedies. It is also essential to obtain community acceptance for accountability, transparency, necessity & justification. There is a need to develop a business model for AYUSH by creating evidence synthesis, compilation and to merge scientific approaches of each systems of AYUSH.

7. Conclusions.

Paying proper attention to ethical perspectives in integration of AYUSHAM is very important for taking correct public health decisions. This can't be achieved overnight. Implementation of AYUSHAM model and regulations can be a starting step, which needs to be supplemented by active researches, development, standardization and advocacy of the policy at the grass roots level.



Chapter 12 Swachh Bharat for Healthy India.

N.B Majumdar.

1. Introduction

My concept of healthy India is good health for all, including poor and downtrodden. Normally, we don't think about the poor. With respect to public health, there are two groups of parameters. One group is cleanliness, hygiene, and sanitation. The other group includes potable drinking water, clean and nutritious food, healthcare facilities, health education and awareness generation. If we look at these parameters carefully, they are achievable and not very expensive. We need to bring down the scale. For example, it is not necessary to go to a big hospital or take only high value food. Nutritious food can be had at a very low cost. If one know the availability of substances in nature, it is possible to achieve total health care.

Apart from sanitation or physical well being, emotional well being is also very important. It is necessary to have social equity, freedom from social discrimination, cast and creed, untouchability etc. These issues bring a lot of pain and stress not only in the minds of the individuals but also in the whole social fabric. Issue of old age care especially of window is a blot in the Indian system. We have talent but many children don't get adequate education due to discrimination.

2. Sanitation and Water: Affordable Technologies and Systems.

Large population, inadequate water availability for sewage conveyance, unplanned cities and financial constraints are our major problems to provide a sewage system. It is because of this reason the water dependent sewage system is limited to less than 10% of the total sewage plants in the country. Normally, a sewage system is designed for a water carrying capacity of 100 LPCD (100 litre per capacity per day). How many cities and regions have capacity to provide that much of water?. If this quantity of water is not available then the sewer gets blocked over a period of time and becomes non-functional. In Delhi for example, there is an annual ritual of cleaning the drains before the monsoon. There is lot of political noise, media activity etc. These things can be avoided through appropriate technologies.

One of the systems, namely, a twin leaching pit toilet provides a sound solution. This has been proven by Sulabh International, which has installed about 1.5 million "Sulabh Shauchalaya" under the guidance of Dr. Bindeshwar Pathak. Provision of providing and maintaining public/community toilets is another vital necessity. Sulabh International has constructed and it is also maintaining 8500 such public conveniences. About 200 of these facilities are linked to biogas plants. This example shows that a simple properly designed system with appropriate technology can take care of public hygiene and it can operate over long periods. A biogas plant in our office, setup in the year 1987, is still running properly. Proper care and maintenance are obviously critical issues.

People, who don't have access to potable water through piped water supply system, face the day to day challenge of having safe drinking water. Even piped water sometimes becomes contaminated. Hence decentralized facilities can help the surrounding population.

3. Decentralized Faulty for Drinking Water.

There are many areas in West Bengal, where ground water is contaminated with high



quantities of arsenic, fluoride and iron etc. It was possible for our organization to set up six examples by establishing drinking water facilities namely, two from surface water pond, two from river water and two from well water. It was found that surface water does not have so much arsenic. Water from these sources was therefore cleaned using simple systems removing the bacterial contamination. Once provided drinking water from the newly installed system, results showed in 2-3 days with declining cases of diarrhea. We have also installed one facility in Delhi for making clean water from water in a tanker.

4. Socio-culture and Emotional well being.

As a demonstration of changing emotional and socio-cultural life of suffering people we worked on two fronts. One was working for the widows of Vrindavan & Varanasi. Through proper care, love, medical facilities and good food etc, a total change was brought in the lives of several windows. Another example was to work for scavengers, who used to carry human waste on their heads in Alwar & Tonk. By providing proper training, using technical tools and social engineering, many scavengers were turned into skilled persons. One of them was made President of the organization, and have even received a prize from the hands of Honorable Prime Minister. The life has completely changed for these scavengers.

Innovative Thought Forum



Chapter 13

Integrative Medical Care: Improving clinical and Management Outcomes.

Geetha Krishnan.

1. Introduction

I work in Medanta, a Multi-Super Specialty healthcare institution spread across 43 acres. It houses more that 30 institutes, departments and division in a single location. There are 45 operation theatres, 1500 beds and 350 critical care beds. Medanta has developed HIS based data collection and a Joint Commission International (ICI)accreditation. Medanta is therefore doing very well in modern medicine. Another area is traditional medicines, which are innumerable. We have been experimenting with Ayurveda and Yoga for the past 6 years. Modern medicine thinks that everything happens out of accident, whereas we think that it is predetermined. It is destined to happen and it is not an accident. We look at the consciousness. If one removes the consciousness from traditional medicines than there is no difference between modern medicine and the so called traditional medicines like Ayureda, Yoga, Siddha and homeopathy etc.

In the unified philosophy of Ayurveda & Yoga every life is the synchronized dance of five elements deliberately brought about by consciousness. The five elements assimilate from the environment and disperse back, during the short and temporary phase of time, called life. The dance of elements forming life, continues unabated and as natural to its Prakruti.



Fig. 1: Our approach of integration

Approach of integration.

We think that there are three different levels of diseases that can happen (Fig. 1). One belongs to the body, the other to the body and mind and the third one that belongs to the mind and consciousness. From the diseases therefore, one can identify the part to be treated. For example if a patient, who had a lung volume surgery, needs to be supported or treated, his body needs to be treated. Except improving his body, nothing else needs to be done. If a patient with heart disease like dyslipidemia or micro-vasular injuries of heart, then the body and mind both needs to be treated. A patient of cancer needs to be treated with his mind and consciousness. There are different ways of



selecting the treatment. For example, if we look at Prakruti, it means we look at Agni, Dosha and Dhatu (Fig. 2). Usually such supporting treatments run in parallel.

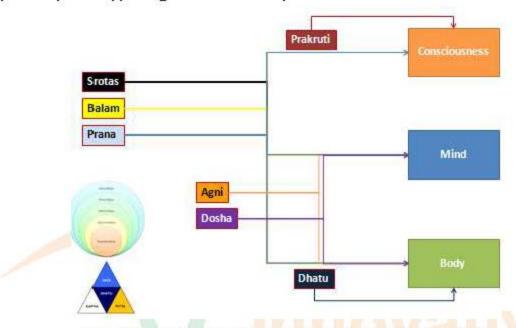


Fig. 2: Factors influencing the integration of ayurveda and yoga

The allopath and the ayurveda doctors sit together, may be not in the same room, but in the same environment. Patient comes to us probably through referral, but mostly on his own. This therefore qualifies under the name of parallel practice. From the patients who come to us we generate evidence. When enough evidence is collected, then one goes to the next stage, where one needs to identify gaps in the modern medical practices. For example, if a patient after lung surgery takes longer time to get discharge, then one adds Yoga. With this the length of time for discharging this patient may be reduced. We try concept on a few patients and after considerable number of patients have been taken care of , then a protocol is made(Fig.3). Though we have treated 14000 patients so far, but only one protocol is ready because making a protocol is a tedious process.

"The aim of integration is to offer the best possible cure, care, and management to the patient."

Organization implementing Axial Model

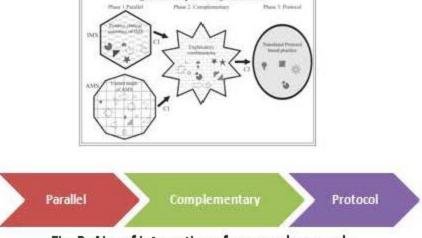


Fig. 3: Aim of integration of yoga and ayurveda



3. Therapeutics in Integrative care: Concerns and Precautions.

There are concerns regarding Ayurvedic medicines like the presence of metals, minerals and toxicity etc. We therefore recommend that only drugs with known safety records and manufactured at GMP certified units should be used. Mostly herbal drugs are preferred. Drugs with hitherto unused ingredients are used only when supported by satisfactory preclinic and clinical data. With reference to compatibility of ayurvedic drugs with blo-medical drugs, close observations should be made by an allopathic practitioner. Diet should be fixed in consultation with clinical dietician. In Panchakarma, one is advised of strict adherence to safety protocols developed and published by the Gov. of India in the year 2008. When exercising Yoga, individual attention is required and any kind of adverse events are closely monitored. An allopath practitioner keeps the patient in close observation and guidance.

4. Patients and Integrative Medicine Department (IMD)

We started the IMD in 2013, when 20% of the total patients were referred to us. Now 60% patients come in referral basis. The analysis of five year data (Fig. 4) shows that five top disease classes referred to us are

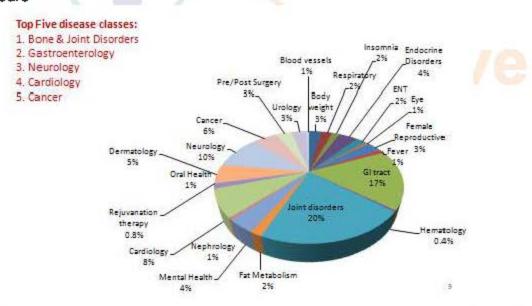


Fig. 4: Patients prome at integrative medicine department of inequality: Analysis of 5 years data: May, 2011 to May, 2016): n= 14837

Bone and Joint disorders, gastro-enterology, neurology, cardiology and cancer. Medanta has specialized in robotic surgery possessing three robots out of a total of 40 in the country. Robotic surgery is often performed for thymoma, which is a mass in the chest. In robotic surgery one reduces the size of the cut. Patients are expected to recover much faster. Experience however shows that due to post operative complications like infection or fluid accumulation, the hospital stay is not reduced much. We have added Yoga as a protocol for treatment in these patients. Pre-surgery yoga is done in every patient and then he is approached as soon as he is awake after surgery (Fig.5) and asked him to breath in a particular manner, called Pranayam.



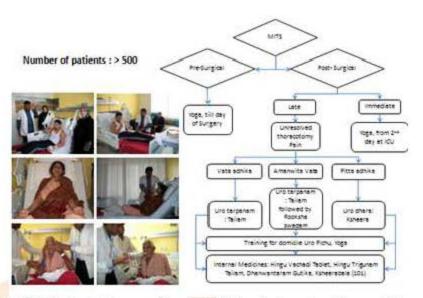


Fig. 5: IMD Protocol for pre-planned Minimally Invasive Thoracic Surgery

The patient is mobilized much faster and discharged within 2-3 days after surgery. This is the major advantage of IMD that has been observed in such patients. In some cases of robotic thoraic surgery, the patient developed neuro-legra causing lot of pain. A nerve is either compressed or caught by group of muscles. In modern medicine, there is no treatment for such symptoms. The patient is treated using ayurvedic therapy. External therapies are administered as well as taught through video. Patient is asked to continue these therapies at home and report back after three weeks reducing time and cost for the treatment.

5. CTV's Patients with Constipation

Many patients get constipated post CTV surgeries. A bypass surgery patient is not given food one day earlier to surgery and post surgery no food is allowed for two days. For almost 4 days, therefore a patient has almost been given no food. On 5th day some food is given and most patients get constipated by this time. Ayurved is able to treat the constipation developed in patients of CTV. Table provides a summary of CTV patients who have been treated for constipation.

Table-1: No of Post CTVS Patients who had been treated for the clinical symptom of Constipation

Period	Male	Female	Total
2010 October to 2012 September (24 months)	65	49	114
October 2012 to September 2013 (12 months)	54	36	90
October 2013 to April 2014 (7 months)	91	61	152
May 2014 to April 2015 (12 months)	122	106	228
May 2015 to April 2016 (12 months)	254	183	437
Total	586	435	1021

Age group: Clinical presentation of constipation was equally spread across all age groups.



Similarly, IMD has been tried on 462 cancer patients (Fig.5). Post operative or aliopathic treated

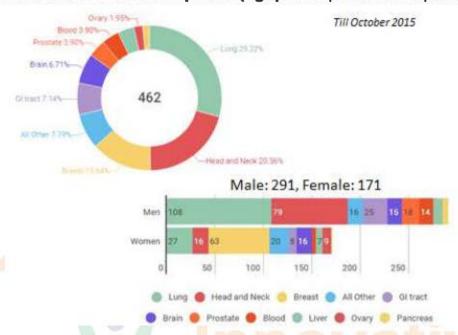


Fig. 6: Cancer patients treated @ Integrative Medicine dept

Cancer patients can be taken care of by the IMD machine effectively. Green areas in Fig.5, detect improvement while the blue color indicates no effect. When head, neck cancer patients are treated with radiation therapy, they develop micocitis because radiation causes inflammation. Radiation doses are normally divided on the basis of body weight. After the radiation is started, the patient loses weight and the radiation cannot be provided in right doses. We give the patient triphla or something else and we are successful in preventing mucocitis and patients are able to eat well. There are similar cases in many other cancer patients where IMD in terms of ayurveda and yoga has helped the patients maintain good life. Fig. 7 to 9 depicts some cases where yoga has benefited the patients.

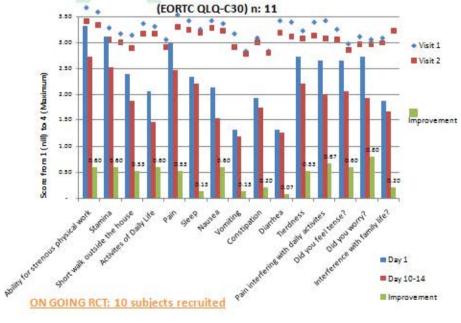


Fig. 7: Breast Cancer: State of illness: add on yoga protocol



Site wise distribution of H&N Ca patients (n 95)

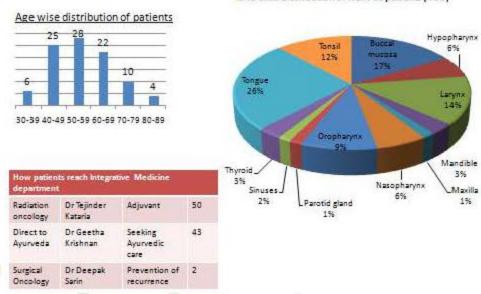


Fig. 8: Head and Neck cancer (Total patients 95 Male 79 Female 16)

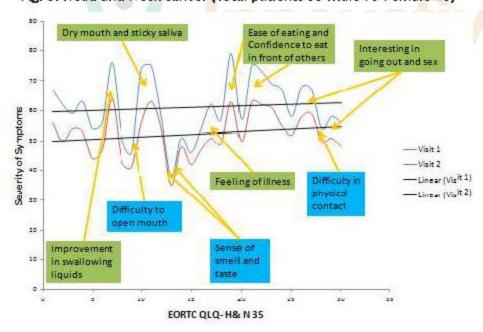


Fig. 9: Head & Neck Ca: Concurrent to RT: Changes in QoL (10-14th day)
Add-on Ayurveda / Yoga Interventions (n: 28)

Fig.10 shows the effect of herbal mouth wash in improving the symptoms of mucocitis post radiation therapy.



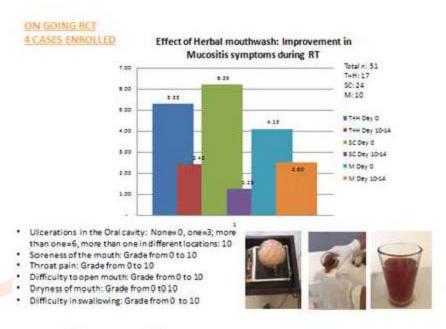


Fig. 10: Ongoing RCT

Ayurveda believes that cancer is not genetic. Looking at fundamentals we look at inflammation; we call it aama. Aama in a body can develop any kind of disease like heart, cancer or diabetes etc. If a proper study is conducted it is possible to reverse the disease. We call this process kosha, dosha and deha, which are based on cardiac function. Understanding of these can help to overcome a number of cardiac diseases (Fig.11).

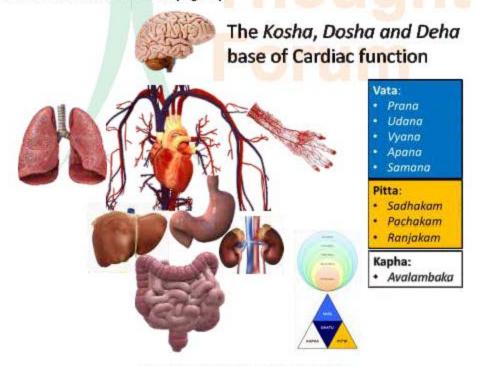


Fig. 11: Base of cardiac function

Dengue Fever

Dengue is a mosquito borne viral disease that has spread in recent years. Last year we had worked on 74 patients, who came to hospital because they were NS 1 positive having high fever. We



started working with internal medicine department. Finding of dengue fever in ayurveda is given in Fig. 12. These patients were provided integrative care where the patient was kept.



Fig. 12: Finding Dengue Fever in ayurveda

Under the observation of internal medicinal team, patients were administered ayurveda. No patient died and only the condition of one out of 74 patients deteriorated post ayurveda medicine. Otherwise none developed any side effects including hemorrhagic fever/septic shock. There was no reported petiche rashes or GI bleeding, swelling of extremities and breathlessness. Ayurvedic medicine could bring the low levels of platelet counts (<100000) to above 1.5 lac in less than 48 hours.

7. Conclusions

The reason for providing integrative medicine is that every life is synchronized dance of five elements deliberately brought about by consciousness. Life is conveyed through the medium of mind; the five elements assimilate from the environment and disperse back, during the short and temporary phase of time called life. The structure which the assimilated five elements take is called the body.

Ayurveda and yoga are excellent clinical tools which can synchronize the consciousness, mind, body, tried to align itself with the environment, so that the dance of elements forming life continues unabated and as natural to its Prakruti.



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"Healthy India"

Seminar on 10th August 2016, at India Habitat Centre, New Delhi.

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