

# Address at the Convocation of JSS University, Mysore

Mysore, Jun 29 2010

## Pharma Vision 2020

*“Let my brain, remove the pain”*

I am delighted to participate in first convocation of JSS University here in this beautiful city of Mysore. I would like to congratulate the Director, the faculty members and staff for shaping the young minds into pharmaceutical specialists and leaders. I am happy that this college is preparing students for Post Graduate in Pharmacy covering multiple dimensions including quality assurance, industrial pharmacy, biotechnology, chemistry, phyto-pharmacy, regulatory and pharmaceuticals. My greetings and best wishes for all those who are graduating today. What will be the single mission that all the Pharma Graduating students today should have? Dear friends, can all of you repeat with me now?

**Let my brain remove the brain. Let me take oath today to remove the spurious medicine from the market”.**

Dear young friends, who are graduating today in Pharma profession, I was thinking for some time, what type of thoughts, I can share with you. While I am here with all of you, I would like to share my views on the topic “Pharma Vision 2020” and I would be discussing about the Spirit of giving in Healthcare Service with some examples. My theme of today’s lecture is as follows:

- a)The effect of Inner voice calling in medicine
- b)How to reach the unreachable
- c)Research in Thrombosis and Innovative Cancer Vaccine.
- d)Six virtues of a healthcare giver
- e)Pharma Visions and its missions
- f)Moral Leadership in eliminating Spurious medicine
- g)And finally, I would be asking all of you young graduating students a question – which you will have to answer? The spirit of a Healthcare Giver: What can I give?

Hence dear friends, Let me focus first about my experience with four medical professionals who are unique in my view, in their area of work and their choice of life. One of the doctors who loves his medical profession. He has selected medical profession as way of life that has transformed into generation of medical institutions, teaching, promoting innovation and above all, he has committed his life to the profession by working over 18 hours a day including Saturdays, Sundays and Holidays. Another doctor whom I know very well faced a tragedy early in his life when he was a young boy. His father passed away in his lap because medical help could not be reached in time. In a hard way, he became a MBBS doctor and selected a tribal area for transformation and successful in his mission uplifting the poor and improving their quality of life. The third medical professional is a researcher in Thrombosis. He has started a research institute in UK and later he has established a Thrombosis Research Institute in Bangalore which I inaugurated. Learning about these great individual will help all of you chalk out the unique path of your life time mission based on the vision that every one of you have in your life. Let me start with how inner voice calling helped a professional to shape his life.

## Inner Voice Calling

Dr Soma Raju was born on 25th September 1946 in Bhimavaram; West Godavari District of Andhra Pradesh in an agriculturist family of small land holding, Soma Raju walked 8 k.m. to his school and could buy his first shoes when he was 12 years old. Realizing education as his ticket to the better world, Soma Raju educated himself with zeal. He took his MBBS and MD (Internal Medicine) from Guntur Medical College and moved to Post Graduate Institute (PGI), Chandigarh from where he obtained his DM in Cardiology in 1977. At Chandigarh he would pay 20 rupees to a patient to allow him to listen to the patient's heart beats for an hour so that he can appreciate the nature and rhythm of heart beats.

Dr. Soma Raju played a key role in setting up the Cardiac Facility in Nizam Institute of Medical Sciences and had the historical distinction of performing the first balloon angioplasty procedure in India in 1985. His work with Wayne State University, USA on repairing heart valves with balloon (Percutaneous Balloon Mitral Valvuloplasty; PBMV) not only benefited hundreds of poor children suffering from rheumatic heart disease but also got him an International acclaim.

Dr. Soma Raju is one of the founding members of society for biomedical technology (SBMT), an inter-ministerial initiative of the Government of India to develop affordable medical devices and technology. Since then he has been instrumental in shaping the development of cardiology and cardiac surgery in Andhra Pradesh in the private sector. Dr. Soma Raju founded Care Hospital and setup a bench mark in providing affordable cardiac interventions and cardiac surgery. The care hospital has grown into 12 centers across the nation. We made a coronary stent together. The KR stent, as it was called, resulted in the availability of all international brands of coronary stents in India at the most nominal prices. Now I would like to talk about the work culture of Dr. Soma Raju.

Dr. Soma Raju reports to the intensive cardiac care unit every morning at 6 o'clock after his morning chores. He is on the job from then. At 7 o'clock, he takes a class which is free in the hospital where medical students from any college can attend. Normally, 50 to 100 students attend his class everyday. From 8 o'clock to 9 o'clock, he is in a network with 12 CARE Hospitals (Hyderabad, Visakhapatnam, Vijayawada, Nagpur, Pune, Bhubaneswar, Raipur and Surat) located in different parts of the country. There he discusses all the critical patients on a conference mode and provides line of treatment based on expert advice. From 9 to 11 o'clock, he goes round the wards and examines each patient who is under his care. From 11 o'clock onwards, Dr. Soma Raju attends to his out patients. Simultaneously, he performs procedures in the Cath Lab. This goes on till 6 p.m. everyday. After finishing the out patients, he meets the administrators after 6 o'clock. If there are waiting patients even after 6, he completes all of them and the administrators have to wait.

Dr. Soma Raju has initiated innovative schemes to channelise the good-will of people to help poor patients getting expensive medical treatment. In one such scheme namely Little Heart Project, free corrective surgery were performed on 1080 children born with congenital heart defects. The unrelenting work of Dr. Soma Raju has won him many

accolades and awards. He is currently Chairman and Managing Director, CARE Group of Hospitals, Hyderabad having 2000 beds at 12 centres. As per Dr. Soma Raju, the driving force behind his continuous contribution to treatment of patients, medical education and institution building is the inner voice which keeps on calling him to remove the disease and the pain of the people.

Next subject, all of you should know how to reach the unreached with a mission.

## Reaching the Unreached

In the present circumstances and environment, it was inspiring to see, how a MBBS doctor has put all his dreams in mainstreaming the tribal citizens of Karnataka for the last 25 years through Vivekananda Girijana Kalyan Kendra (VGKK), at BR Hills. When I visited BR Hills in 1998 and subsequently in 2006, I could see substantial new developments in that area. I could see that “New Tribal Hospital”, Roads and education environment and above all the earning capacity of the tribal citizens have been increased with the technology resource centre as a base. Dr. H. Sudarshan, is the inspiring architect of this societal transformation. The mission which he has started has spread to many parts of the country including the Andaman and Nicobar Islands and Arunchal Pradesh. Dr. Sudarshan and his team have been selecting difficult regions and making a difference to the people of that region by their own way of life which was started in a small hut. Country needs thousands of Dr. Sudarshans for providing healthcare to our rural citizens. I am sure some of you may emulate Dr. Sudarshan in this noble mission.

Let me now discuss the research contribution of Dr. V.V. Kakkar of Thrombosis Research Institute which has resulted into newer drugs which helped to solve the problems in cardiovascular, neuro and other disorders.

## Thrombosis research in India

I inaugurated THROMBOSIS RESEARCH INSTITUTE, Bangalore on 18 Dec 2006, pioneered by the founder Director Dr. V.V. Kakkar based on the institution he established in UK.

**Treatment of Thrombosis:** The knowledge obtained through the new research is likely to impact positively specialties like Cardiology, Neurology, Peripheral Vascular Disease, Open-Heart Surgery, Coronary Vascular Interventions and Artificial Heart Valves. Congenital gene-linked disorders like Hemophilia may be benefited by new genomic medical technology. Availability of drugs like Heparin opened the door for treatment such as open-heart surgery, cardiac catheterization and angiography. Thrombolytic drugs like Strepto-kinase have reduced ICCU mortality of acute heart attacks from 15% to 5%. Appropriate and early timely use of these drugs is saving lakhs of lives all over the world. Heparin and clot-buster drugs have contributed tremendously in saving patients with deep venous thrombosis and clot embolism to lungs. Recent contributions in the management of acute brain stroke are of great clinical significance. We need newer Thrombolytic drugs more ideally suited for safe and effective use in acute heart attacks and brain strokes. They should not only be more effective, but they should have, no systemic side

effects and not have rebound thrombosis. One of the nano-technology applications ideally suited for this purpose is drug mailing, where the injected drug will go to the site of the clot and be effective locally at that required site.

Let me now discuss my recent experience of innovative vaccine development for cervical cancer based on my recent experience.

## **Innovative Cancer Vaccine Development**

In April 2010, while in Louisville in USA, I met researchers from Brown Cancer Research Center who are developing a vaccine for cervical cancer which affects many women in the nation. A World Health Organisation study reveals that every year 132,000 women are diagnosed with this particular kind of cancer and nearly 75,000 die from the disease. The proposed vaccine would be developed on protein drawn out of tobacco leaves and would cost nearly \$2 for every individual. I am sure, the healthcare community assembled here would like to take up development in such areas of societal importance. Since all of you are now going to engage in your mission to be the future leaders of the pharmaceutical sciences, let me now discuss with you the Pharmacy visions and the missions ahead.

## **Six virtues of a healthcare giver**

When I am with the medical and pharma community, I would like to share an experience with Choakyi Nyima Rinpoche, the Chief Monk in Kathmandu and a medical researcher. After nearly a kilometer of walk, I reached the white Kumbha where the chief Monk and his disciples were waiting to receive me. After reception the Chief Monk said, let us go to our study room and I followed him. He climbed the first floor, the second floor, the third floor, the four floor and the fifth floor, just like a young boy. Probably the life style has a positive impact on the mind and body. All along I was following and following. When I reached his chamber, I saw a laboratory and a spiritual environment over looking the Himalayas. What surprised me was, his research students come from different part of the country. Particularly he introduced me to his co-author David R Shlim, MD who is working on a research area, Medicine and Compassion. The Chief Monk Choakyi Nyima Rinpoche and myself exchanged few books. The Monk has written with Dr. David R. Shlim a book titled "Medicine and Compassion". I liked this book and read it during my journey from Kathmandu to Delhi. This book gives six important virtues which a medical practitioner has to possess towards their patients.

First virtue is generosity; the second virtue is pure ethics; third is tolerance, fourth is perseverance, fifth is cultivating pure concentration and the sixth virtue is to be intelligent. These virtues will empower the care givers with a humane heart. I am sure, all the young pharmacy students graduating today from JSS University will inculcate these values.

## **Pharma Vision**

The global production of pharmaceuticals, branded and generics put together is of the order of \$ 773 billion. The Indian pharma industry at present has a turnover of \$ 17 billion of generics for domestic and export markets and the overall turnover of the Indian Pharma Industry is expected to reach US\$ 25 billion by the end of 2010 of which 60%

would be exports. As much as 40% of all generic drugs used in USA are sourced from India. By 2020, we should target at increasing the turnover of our Pharma Industry to over \$100 Billion. I would like to suggest that we should identify all such missions which will make India the leader in drug production. We should set a target of producing 20% of world generics production. India has got a core competence of producing cost effective Pharma products. The pharmacists assembled here and the students studying in various disciplines must keep these targets in mind and contribute adequately for the realization of Indian Pharma Vision 2020. Let me now discuss some of the possible missions which may help achieve the Pharmacy Vision 2020:

- a)** India has to emerge as the leader of low cost quality vaccines for HIV, Cancer and Malaria.
- b)** About 50 popular drugs worth \$47 Billion are getting off-patent in the 3-5 years. This would present an opportunity for the Indian Pharmaceutical Industry to enter into newer drug markets.
- c)** However, over long run, we have to graduate into knowledge and research leadership. This will help India to emerge as leader in terms of value. Today, while we are 3rd largest in terms of volume of product at 10%, in terms of value we represent only 2% of the overall market share. By 2020, the pharmaceutical industry has to evolve amongst the world leaders in the research from molecule to drug and through original research leadership.
- d)** Our nation has richness of bio-diversity which can be of immense application in the drug evolution. The Pharma industry and pharmacists should research and evolve drugs based on traditional Indian plants and herbs to combat many of the prevalent diseases around the world.
- e)** For enabling pharmacists in India to offer world class professional service, we must create continuing education as a pre-requisite for all pharmacists. First we need to synchronize our curriculum dynamically with the changing global scenario and new inventions and discoveries being made. Second, every effort should be made to upgrade the existing persons to the level required for the degree program proposed by the World Health Organization (WHO) in their report entitled “The Role of Pharmacists in the Healthcare System”. Institutions should prepare a time bound program for this transition and aim to complete the implementation

## **Moral leadership in Pharma**

Friends, all of you, young pharmacy specialist will be engaging in work which involved care giving and treatment. Many people will trust their lives on the drugs which you will make. With such trust behind you, you will be required to uphold the highest sense of value and integrity with moral leadership in the entire pharmaceutical industry. Moral leadership involves two aspects. First, it requires the ability to have compelling and powerful dreams or vision of human betterment. Moral leadership requires a disposition to do the right thing and influence others also to do the right things. There is a perception that a number of pharmaceutical products sold in India are counterfeit or of substandard quality. These drugs are generally made by unscrupulous elements and supplied surreptitiously to chemist shops through illegal channels. The pharmacy education has an important role to play in equipping the students with the knowledge and

ability to detect the entry of unauthorized drugs into circulation. Also, every effort should be made to check the manufacture, sale and distribution of spurious drugs. The Central and State governments have to ensure that the Drugs and Cosmetics Act is properly enforced to check this nefarious practice. Pharmacists must ensure that their sources of supply of drugs are reliable to check the menace of spurious drugs. The pharmaceutical curriculum must include subjects which will enable detection of spurious pharmaceutical products by all pharmacists.

On the other hand, moral leadership will also require you to be dedicated to the welfare of the most important element of healthcare – the patient. You must constantly keep his or her benefit in the mind as removing the pain is your ultimate aim. For that, you will have to take a holistic outlook at pharmacy services you will provide – keeping in mind the side effects of the drugs which are made in the long run.

Last week, I came across an article about how Anti-cholesterol drugs can cause depression. The article mentions about the research by Indian scientists from the Center for Cellular and Molecular Biology which found that “statins” class of drugs, used to lower cholesterol, by inhibiting a key enzyme responsible for its bio-synthesis in the body can also cause the side effect of depression and anxiety. The scientists have shown that chronic cholesterol depletion by statins impairs the function of the receptors for serotonin, a neurotransmitter in the brain that controls mood and behavior. Maintaining normal cholesterol levels is important for the function of cell membrane receptors for serotonin. The latest study shows that cholesterol depletion in the brain affects the function of serotonin receptors leading to depression and anxiety. So my dear young friends, as healthcare missionaries, you will have to deal and evolve yourself to handle such complex interlinking of the human body and drug effect.

## Conclusion

Dear friends, I have presented to you some of the medical professionals with a mission in their lives, and the way they work and are continuing the work. Some of the unique qualities which emerge from these healthcare givers which I have cherished are the following:

- a) A vision energizes their lives.
- b) All of them have a passion for their profession.
- c) They have an innate desire to make a change to the life of the people.
- d) Their Kindness to patients brings their best.
- e) They have a continuous desire to learn.
- f) They have a very effective time management system.
- g) Above all they love their profession.

**Pioneering Missions:** Dear friends, some days ago, I asked your Vice Chancellor, Dr Suresh to give me some great names who were the pioneers of the Pharma product research and development. It was a pleasant surprise when I heard my guru, Prof Vikram Sarabhai’s name! Professor Sarabhai, as you all know, is the father of the Indian space mission and also founded the Indian Institute of Management Ahmedabad. When I look

at all the three pioneering actions, I thought of conveying to all of you what was the uniqueness of him – Dr. Sarabhai was a visionary who always had a question in mind “*what can I give to the nation?*” And of course, he gave a lot.

Finally, since I am in the midst of the young pharmacists and healthcare givers, let me should ask you all a question - **what would you like to be remembered for?** You have to evolve yourself and shape your life. You should write it on a page. That page may be a very important page in the book of human history. And you will be remembered for creating that one page in the history of the nation – whether that page is the page of invention, the page of innovation or the page of discovery or the page of fighting disease or the page of contributing towards inclusive growth of the nation in a time bound manner. I am sure, you would like to do something different – out of box missions, what are they? I would like to put-forth a thought:

- 1. Will you be remembered for creating a company which finds a place in the top 5 Pharma companies of the world and delivers new drugs for the combating human diseases?*
- 2. Will you be remembered for revitalizing or revolutionizing the integrated Primary Healthcare Centre in a Public-private-participation model?*
- 3. Will you be remembered for creating an affordable vaccine against HIV, cancer and malaria?*
- 4. Will you be remembered as a great educationist in the Pharmacy sciences who educated some of the best pharmacist for the nation and the world?*
- 5. Will you be remembered for establishing the nation as a leader in the field of molecule to drug research?*
- 6. Will you be remembered for creating low cost, drug supplement solutions which can help overcome malnutrition in the millions of children in the nation?*
- 7. Will you be remembered for integrating multiple disciplines of sciences for patient care?*
- 8. Will you be remembered for combining nano and bio technologies, and create bio-digestible nano robots which can deliver targeted drug delivery and be digested later?*

I would suggest you that all of you decide on “what you will be remembered for” as quickly as possible, since that statement will act as a goal post for you and facilitate your systematic work for the realization of the goal.

I congratulate the graduating students for their excellence in academic performance. My greetings to all the members of JSS University and best wishes for success in their mission of developing quality medical professionals who will have the motto ‘let my brain remove the pain’.

May God Bless you.  
**By, Dr. APJ AbduKalam**