

# Pharmaceutical Education in India Our Strength and Weakness

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Ladies and gentleman, I am really overwhelmed in addressing to such a galaxy of academicians that includes Vice-Chancellors, Directors, Professors and other distinguished teachers from all over the country who have come from long distances to this historical town of Jodhpur which has also become a centre of advanced education. I wish to see all my initial day in 1947 when I went into the market, after obtaining the M.Pharm degree from the Banaras Hindu University. India was to become independent in two months time and the whole country was wondering, speculating and times convulsing with oncoming partition into India and Pakistan. At the time of partition the pharmaceutical sector was in very state. India manufactured only Rs. 1 crore worth of medicines per year and we imported more than Rs. 90 crores worth from other countries primarily from the UK and Germany. It might not surprise you to know that India today manufactures medicines worth Rs. 79,000 crores and consumes only Rs. 39,000 crores worth and in this year of 2009 it will be exporting medicines worth more than Rs. 40,000 crores to various countries, including to USA and Europe. This means India has now become a very significant manufacturer and exporter of medicines from this year and it has acquired a global status in pharmaceutical industry. In terms of dollars the total global production of pharmaceuticals is worth \$610 billion and India's share is only \$16 billion which makes it only about 2.5% in terms of value but medicines being very low priced in India, in terms of volume India's share comes to about 16% of the global output and in this regard India now is third only after the USA and the EU.

The Banaras Hindu University was the only university at that time imparting education in Pharmacy. There was also the Punjab University in Lahore which has started admissions in the B.Pharm from 1944. This department also got partitioned and one part which came to India started

functioning in Amritsar to begin with and later in moved to Chandigarh where the Panjab University (India) started working. Incidentally, two years back, I was in Lahore and was able to visit the other part of Department of Pharmacy in Lahore. In 1947 itself, the L.M. College of Pharmacy was started in Ahmedabad and this was followed by BITS (Pilani), Jadhavpur, (Calcutta) and Sagar. These three clatters were also established by Professor M. L. Schroff who was responsible for starting it the Banaras Hindu University as early as in 1932. Soon after some other universities also started these countries. It was in 1962 that we, who were in the Pharmacy Council of India started feeling that India needed an advanced post-graduate education research centre in pharmacy on the pattern of the All India Institute of Medical Sciences that had started functioning in Delhi for advanced training to the doctors. In spite of our repeated requests to the government nothing happened for 23 years but it was in 1985 that Rajiv Gandhi came to inaugurate the Indian Pharmaceutical Congress at Delhi at the invitation of Dr. Parvinder Singh who was the President of the Congress and had been a personal friend of the Prime Minister. In spite of Rajiv Gandhi's declaration that a National Institute of Pharmaceutical Sciences will start soon it took many years for it to really get started and technically the institute which was started a few years later in Mohali (Punjab) received the authority to admit students for the M.Pharm and the Ph.D. degree only in 1998. Today, of course, it has acquired the status of highly prestigious institution of global status undertaking not only teaching programmes but also researches in areas where India needs to go ahead and find out new medicines for Malaria, Tuberculosis and Blindness. It also runs advance courses both of short and long durations for Pharmaceutical Scientists in India and of other developing countries round the year and thus, it has become a centre for advanced learning in pharmaceutical

subjects and acquired the same status as the All India Institute of Medical Sciences has done in the field of medicine. Encouraged by the contribution of the NIPER at Mohali, the Ministry of Petroleum & Chemicals decided in 2007 to open six more NIPERs in various parts of the country such as Ahmedabad (Gujarat), Hajipur (Bihar), Kolkata (West Bengal), Hyderabad (Andhra Pradesh) and Rai Bareilly (Uttar Pradesh). I have a strong feeling that the government undertook to do too much, all at once. It is very difficult to create a proper infrastructure for institutes of this high category and it is not possible to find so much faculty of experienced and brilliant professors all at once. The government should have been well advised to open one new NIPER every year although from my point of view even that would have been also going too fast. The government has also fast. The government has also made admissions of the students in these new institutions in temporarily acquired buildings and were being taught by "Guest" staff from neighbouring degree colleges. It is definitely going to lower the standard of education that has been set by the NIPER at Mohali.

The Pharmacy Council of India has also encouraged the establishment of the five and a half years Pharm.D. course (Doctor of Pharmacy) on the pattern of the developed countries where the B.Pharm course is gradually being replaced by Pharm.D which is more clinically oriented and caters to the high grade community pharmacist who is obviously very highly clinically oriented.

Now I am coming to a diploma course in pharmacy which caters for the five lakh community pharmacies and other similar establishments run by the government and the corporate world in this country. The Diploma in Pharmacy is the minimum registerable qualification under the Pharmacy Act and thus these diploma holders serve the whole nation as the next door pharmacist of the community.

\*Based on the Inaugural address given at the APTICON Annual Convention in Jodhpur on October 3, 2009.

Unfortunately, the situation here is not a happy one and today we continue teaching at the diploma level, a syllabus that has lost its relevance. It is simply preposterous. We run a course in more than 500 institutions with 30,000 admissions every year, a course that was regarded as adequate 22 years back in 1987 and approved by the government in 1991. Later in 2001, the PCI recommended to the government to accept the 4 year B.Pharm as the minimum qualification for registration under the Pharmacy Act. Government in its wisdom did not accept it and wisely so. I tell you if it had accepted it and as expected by all right thinking persons B.Pharm would refuse to go to those 5 lakh pharmacy outlets spread all over the country including the villages. To make matters ease and to let the pharmacies function an ordinance empowering "matriculate with a month's training" could be enforced to do the job as a stop gap arrangement until the B.Pharm were available in adequate numbers. That would have been the end of the Pharmacy Act. This has happened in most African countries I had

chance to visit. Mind you what the country needs is a health and medically oriented course where the community Pharmacist can provide not only the right medicine but also advise on the proper use of prescription drugs and an authoritative advise on OTC drugs. The WHO envisages a situation where the community pharmacist may be even allowed to prescribe some simple but badly needed medicaments. The B.Pharm cannot do it. He has failed to do so whenever and wherever he was given an opportunity. Only a properly trained community pharmacist can do it. It would have been more pragmatic if a 3 year Diploma or that could even be called a B.Sc. (Pharm), been recommended. That had at least 90% chance of getting through the government. We missed that opportunity too. In other countries, neighbouring ones even i.e. Singapore, Hong Kong, New Zealand, Australia they have almost completely replaced the B.Pharm with Pharm.D and in our country we continue with the old diploma for 99% of our population and may be the Pharm.D. for the 1% IP and VIPs. Is that our aim?

## Some Glaring Inadequacies of PCI'S ER 91 Syllabus

### 1. **Obsolete Drugs requiring emphasis:**

*Meprobarnate, Methylpyrrolone, Paraldehyde, Chlorpropamide, Phenylbutazone, Oxphanbutazone, Analgin, Ethylnitrate, Guanethidine, Clofibrate, etc.*

### 2. **Most commonly/widely used medicines have no mention in text:**

*Macrolides, 3<sup>rd</sup>/4<sup>th</sup> Gen. Cephalo-sporins, Fluconazole, Miconazole, Clotrimazole, Fluoxetine & SSRIs, Alprazolam, Atenolol, Metoprolol, Dicyclomine, Metoclopramide, Domperidone, Clopidogrel, Cetirizine, Diclofenac, Nimesulide, Statins, ACE Inhibitors, Calcium Channel Blockers, H<sub>2</sub>-Antagonists, Proton Pump Inhibitors (No mention at all).*

Posterity will never forgive us for our sins but if corrected even at this late stage when the world is moving fast and faster everyday it may be possible to repair our cart that has failed to move in the last 22 years.