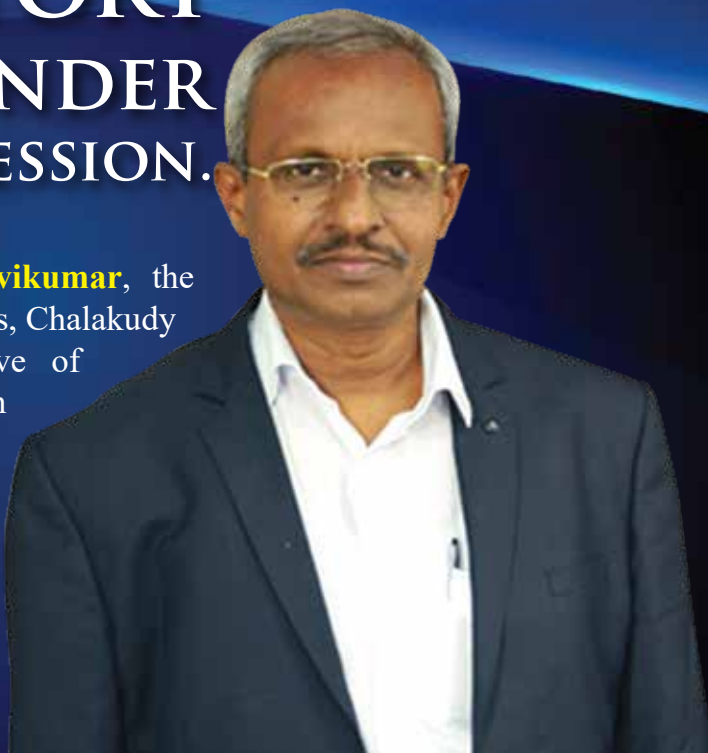


THE REAL STORY OF AN ALL ROUNDER IN PHARMACY PROFESSION.

Pharma first Team met **Prof.Dr. K.G.Revikumar**, the Principal Nirmala College Of Health Sciences, Chalakudy to have an interaction with the objective of knowing his all-round performances in various aspects of Pharmacy profession including Pharmacy Education, Pharmacy Practice, Pharmaceutical Journalism, Pharmaceutical Research, Pharmaceutical industry & Marketing and In Hospital Pharmacy Services etc. for benefitting the Budding Pharmacists



Q-1 Which role do you enjoy most, as an educationist, a Pharmacy Practitioner, a journalist, an Industrialist or a Researcher in the Pharmaceutical field?

As a Pharmacy professional, I like to enjoy all aspects of the profession as each one is having its own importance, relevance and influence on the society and profession of Pharmacy. However, I always enjoy the beauty of education and teaching. The purpose of Pharmacy education is to mould a new generation of Professionals who can take the profession to higher levels with more courage and dedication. Dealing with students, particularly the young and naughty ones is always a matter of joy and challenge. I have a large number of students in my friends' circle. Many of them often contact me through social media or otherwise for advice, clarification or other information regarding various aspects and contemporary issues of the profession. Whenever gets time, I try to attend such queries and do the possible help.

Q-2 When was Pharmacy education started in Kerala? Can you rate the status of Pharmacy Education in Kerala in recent time, particularly

after starting the Self Financing Pharmacy Colleges? Is there a need for more Pharmacy Colleges in Kerala?

Pharmacy education in India was started by Prof M.L Schroff at Banaras Hindu University (BHU) in 1932. The first Pharmacy course in Kerala was a Postgraduate Diploma in Pharmaceutical Sciences started in 1945 at Maharajas College, Ernakulam by Dr K.N. Menon, the then Professor of Chemistry. Dr Menon was a close associate of Prof M.L. Schroff at BHU during the 1930s. Dr Menon managed to get a donation of one lakh from the Philanthropist and Industrialist Dr RM Alagappa Chettiyar for starting the course in Maharajas College. The PG Diploma of Maharajas was, in fact, the 4th Pharmacy course in India. It was later developed into M.Sc. Applied Chemistry with Pharmaceutical Chemistry as a special subject. Since the College authorities later failed to obtain approval from AICTE and PCI, it was not recognized by them. Naturally, the course lost its status as a Pharmacy course by 1950s.

The first Pharmacy Council of India recognized Pharmacy course in Kerala was the Diploma in Pharmacy (D.Pharm) started at

Medical College, Calicut in June 1967. This was followed by the first Pharmacy Degree Course (four-year B.Pharm) in the state in November 1967 at Medical College, Thiruvananthapuram. The credit for starting the B.Pharm course at Trivandrum Medical College goes to Dr.Thanavelu who was the Principal and a strong supporter of Pharmacy education.

During 1980-81 few D.Pharm colleges were started in the State in private sector. After starting the first B.Pharm course in Trivandrum Medical College in 1967, the State has to wait for another twenty-five years to have another B.Pharm. That became possible only because of the strong initiative taken by the M.G. University at Kottayam to start a Self-financing centre- School of Medical Education- in 1993. By 2019, there are 55 AICTE approved Pharmacy Degree Colleges in Kerala, some of them are also conducting M.Pharm and Pharm.D programmes. Out of the 55 Colleges, 8 are Government Institutions, 2 are Government controlled Self-financing institutions and all the remaining are private self-financing institutions. I am of the opinion that now we have to make some reasonable restrictions for starting new Pharmacy Colleges in the State.

As per S.10 (a) of AICTE Act 1987, the AICTE is responsible for conducting a survey in the area of technical education including Pharmacy in the country and forecast the need for such institutions in India. Unfortunately, so far no such studies were conducted in India either by AICTE or other agencies. It is high time that AICTE should constitute a Committee to study the need for Pharmacy Institutions in various Indian states and Union Territories. Some states like Bihar and North East sister states are really in need of more number of Pharmacy Colleges.

Q-3. The Present scenario of Pharmaceutical Industry in Kerala is very pathetic. Kindly share your valuable suggestions for its improvement?

In the case of Pharmaceutical products, Kerala is a potential domestic market place. The per capita use of medicines is highest in Kerala. Though only 3 percent of the Indian population is in the state, more than 10 per cent of the total medicines sold in our domestic market is consumed in Kerala. There are only some small scale (MSM) manufacturing units in the state and all of them are facing lot of problems for survival. Raw materials

and packing materials have to come from other states and the labour cost in Kerala is the highest in the country. Government incentives to safeguard them are totally lacking. State Government should play an active role in promoting local manufacturing units. Local firms may be given 50% of the order quantity for selected items of medicines required for Government hospitals. State Government may explore the possibility of ensuring raw materials and packing materials for such items at subsidized or most economical rates.

Only if the State Government take some serious steps to help and promote the Pharmaceutical units existing in the state, they can survive. There is potential scope for the development of Ayurveda medicines and Nutraceutical preparations in Kerala. State Government is pumping a lot of money for the revival of state owned Kerala State Drugs and Pharmaceuticals (KSDP) situated at Kaloor, Alleppey, which has already become a white elephant. Some policy has to be made for the production of quality generic medicines in the state of Kerala.

Q-4 Pharm D course was introduced in India in 2008. Can you justify this course in the light of the agony of unemployed Pharm D graduates in India? What are your suggestions for creating employment in Government Sector?

We have to understand the global scenario of Pharmacy education and Pharmacy practice. The Doctor of Pharmacy Degree, abbreviated as Pharm D, is a professional Doctorate degree in Pharmacy. It is very much similar to professional degrees like Doctor of Medicine (MD) or Doctor of Dental Surgery (DDS) in the USA or equal qualifications in other countries. Pharm.D has evolved a global program available in all most all countries in the world. The duration of the program varies from five years (example. USA, Pakistan) to eight or nine years (example. Ghana, France) of academic education at the University/ College levels. In some countries like Hungary, Netherland, Portugal etc., it is a post-graduate program while in yet other countries Pharm.D is considered as superior to Masters qualification and Postgraduates are admitted to the program. During the last few years, Pharm. D became popular even in the Middle East countries.

Other than India all countries require a
Pharma first 05

minimum qualification of Degree in Pharmacy (B.Pharm/ B.S Pharmacy) for the practice of Pharmacy. India is the only country where 2-year Diploma in Pharmacy is accepted for registering as a Pharmacist and D.Pharm holders are permitted to practice Pharmacy. In all other countries, such diploma courses are training Pharmacy technicians who work under the Pharmacists. The current trend is to make PharmD/ M.Pharm as the essential qualification for the practice of Pharmacy. Hence there is good potential and prospects for Pharm.D in India if the Pharmacy practice in the country is made to international levels.

Through the Pharm.D programs, the Pharmacists are trained to become active and integral members of the patient care team. The ward rounds, clinical postings, clerkship and the residency in hospitals and community pharmacies are the core components of the Pharm.D program. The Pharm.D curriculum is designed to produce Pharmacists who have the abilities and skills necessary to achieve outcomes related to Pharmaceutical care to patients, ensure medication safety and promote rational and effective Drug therapy with the support of medical information.

In 2008, PCI introduced the Pharm.D course in India as it was the need of the time. Unfortunately, the PCI failed to do the necessary homework to train the teachers who have to handle the students from 1st year to 6th year of PharmD (P1 to P6). Moreover, PCI permitted a large number of colleges to start the PharmD programme without ensuring quality and standards and job opportunities.

What is the employment potential for Pharm.D graduates in India? From the experiences of other countries, the job opportunities for the Pharm.D rests mainly with the Pharmacy Practice areas like Community Pharmacies, Hospital Pharmacies, Clinical Pharmacies, Clinical Research including Clinical trials, Pharmaco-economic centres in industries, Health Insurance areas and Government and private institutions. More than 55 % of working Pharmacists in any country are engaged in the community pharmacies. Even after 70 years of Independence, Indian Pharmacy authorities failed to make our community pharmacies developed to international levels. Innovative practice culture is required in Indian community pharmacies. Qualified Pharmacists have to be attracted to community and hospital pharmacies. The purpose of Pharm.D education has to be reflected in the

syllabus and Regulations. Those who complete PharmD should be able to contribute positively to the development and popularization of Pharmacy practice in the country.

Q-5 It is a reality that the Course content of Education and research in Pharmacy are not suitable for the proper usage of Pharmacists in India. What are your suggestions for restructuring the education from Graduate level and their quality regulations?

The syllabus and course contents of Pharmacy programmes should reflect the expected practice levels from the graduates. To cite an example since 1995 many Indian states are having their own medicine policies. In 2017, the Modi Government introduced generic prescription and dispensing in India. Health Insurance is becoming popular in India in recent years. Such aspects should be taught to the Pharmacy students and the course contents should be updated regularly by the affiliating Universities. Practice and education should go hand in hand. The research should not be for mere research purpose or obtaining a certificate. It shall have a direct impact on the practice and education aspects.

Q-6 It is learned that the basic qualification for Pharmacy Practice is going to be fixed as B.Pharm. What are your suggestions when evaluating the present status of Pharmacists in the Community and their job nature as a community Pharmacist?

Since 1990, I am hearing that the PCI is going to make B.Pharm as the basic qualification for registration as a Pharmacist in India. In fact, I was a member of the syllabus review committee headed by late Prof B.D. Miglani who was entrusted by the PCI to draft the syllabus for B.Pharm when Dr.C.K. Kokatte was its President. We discussed the issue seriously at a meeting held in KLE's College of Pharmacy at Belgaum and later deliberated on its various aspects. The draft 2001 Education Regulations making B.Pharm as minimum qualification was prepared and submitted. Nothing happened for the last twenty years.

I am of the opinion that India could have made the changes way back in 2001 itself after doing the homework. We have to do a lot of planning and home work for it. Unfortunately, such home works are not seen seriously done in India. It is true that

the PCI has made B.Pharm (Pharmacy Practice) Regulations in 2014 for D.Pharm holders. It was drafted as a two-year programme. Unfortunately, it was not accepted by Indian Universities as they require minimum three or four years duration for a Professional Degree Course. This issue should have been drafted as a 4 year integrated programme along with D.Pharm.

As I have already stated India is the only country in the world where a two-year D.Pharm course is run as the minimum qualification for registration as a Pharmacist while in all other countries either B.Pharm or Pharm.D has become the basic qualification for registration and practice of Pharmacy. Highly qualified Pharmacists like those with B.Pharm, M.Pharm or Pharm.D need to be attracted to our community and hospital pharmacies. We should remember that the Indian Pharmaceutical Industry has become the 3rd largest one in the world by 2019 and presently there are about 3000 AICTE approved Pharmacy Colleges in the country. Still, our pharmacies are working without the services of qualified Pharmacists and appear like pure business or commercial centres.

Q-7. The Community Pharmacies in Kerala are seen mushrooming without any evaluation of their necessity in an area/ market potential. The Government agencies are starting retail medical stores without conducting any feasibility studies. Please share your remarks on the present scenario?

We have a large number of community pharmacies in certain urban areas while the rural people have to travel many kilometers to buy some medicines. We have framed some specific norms for the starting and functioning of community pharmacies. Some accreditation process have to be introduced for the community pharmacies.

Q-8 Your initiative of starting the Fair Price Medical Store at MCH Trivandrum was a big hit. Why such Pharmacies with a mix of trade and Practice are not spread over Kerala, at least in the major hospitals?

It was in 1995 while I was working as the Chief and Head of Hospital and Clinical Pharmacy in Medical College, Trivandrum that the Community Pharmacy in a Government set up was started in the Medical College Hospital. It was

originally called 'Paying Counter' or 'Fair Price Medical Store', which was later re-designated as 'Community Pharmacy' of Medical College Hospital, Trivandrum. It was started with the primary objective of providing medicines that are not available in the hospital for free distribution, at a fair price compared to their open market prices. It was also having an academic aspect of providing skill development through practical training of Pharmacy students, interns and junior pharmacists. It was the first professionally governed community Pharmacy established in a Government Hospital by a Pharmacy department in the country. The Trivandrum model was studied by other Indian states in later years for adapting to their environments.

The success story of the Paying Counter prompted the State Government to start 'Neethi' medical stores, 'Maveli' medical stores and many other fair price medical stores in Government hospitals under hospital development committees/societies. Other states like Karnataka, Tamilnadu and A.P similar settings in their hospitals with necessary modifications or changes. In 2011 then managing director of KMSCL Sri Biju Prabhakaran IAS started Karunya Community Pharmacies in certain major Government hospitals emulating the concept in a professional manner.

Q-9 There are various Guidelines like GMP, GLP, and GCP etc in the Pharmaceutical Field. Is it ideal for implementing Good Regulatory Practices, Good Distribution/Trade Practices, Good Dispensing Practices and Good Drug Administration Practices for improving Quality?

Guidelines are framed and introduced with the objective of quality improvement and quality assurance. They are needed when there is a fall in the expected level of quality in the product or service. Good Regulatory Practices will help to make the regulatory and Drug control aspects streamlined, Good Distribution Practices will help to make the medicine distribution and trade more professional and of standards, Good Dispensing Practices can make the medicine sales and dispense safe and patient friendly. Moreover, such Good Practice procedures will help for the establishment of documented procedures for activities carried out by professionals. Deviations and errors can be traced and corrective measures can be taken for the future.

Q-10 You have guided many students in the Pharmacy education. What is your observation in the practical use of the research works in Healthcare system?

These days the students, in general, are seen focusing on the academic curriculum framed by the University. Co-curricular and extra-curricular activities focusing on professional development are minimum. Pharmacy students at the UG, PG and PhD levels have to do a certain type of research as part of their academic requirements. Majority of them do the research for that purpose only. Any research shall have some purpose for the benefit of the country and its people. We have to take the Chinese education system as a model for research in Pharmacy. They compel the students to take research topics that have a commercial/business application.

By the 4th year of B.Pharm or PharmD, a Pharmacy student shall be able to identify his/her areas of interest. This will help the student to identify a speciality of own choice for PG or further studies; even the research topic for future PhD programme. Ideally speaking, the topic one selects for his/ her PhD shall have some relationship with his/her master's project work. Research shall be for the benefit of the profession, society, country and the world.

Q-11 Looking back, how do you rate your career in the Education sector, in Government and Private Sectors?

I have worked in both Government, private sectors. Even while in Government Service, I always appreciate the contribution of the private sector. The first Pharmaceutical manufacturing unit in India was started in the private sector- Bengal Chemicals by Acharya Prafulla Chandra Ray in 1901 at Calcutta. Today there are thousands of manufacturing units in India. The first Pharmacy course in India at University level was started in BHU which was in the private sector. Unfortunately, some professionals always consider the entire private sector as enemies and believe that they work on black money.

We have to appreciate that some of the best educational institutions are in the private sector.

The work culture of people in Government and private are different. In the private sector, one has to really work. It is true that there are some problems and issues to be solved in the private sector. Since I was always a fighter, I could do certain things in the Government sector which others could not. However certain things like starting of Pharm D which I could not do in Government could be done in private with little effort and in a short time. Ten years before starting Pharm D in India in 2008 by PCI, I tried to introduce it to the University of Kerala Trivandrum in 1997.

Q-12 As a forefront leader of many Pharmacy Professional Organizations in India, can you evaluate their contributions for the profession, especially in improving the status in the society and in Healthcare system?

Professional organizations can do many things for the growth, development and upliftment of the profession and its members. It was the same M.L. Schroff who initiated the first Pharmacy education programme in India, started India's first Pharmacy professional organization at BHU. Politics and other petty considerations including the benefits for the leaders should be brought into Professional organizations and they should wherever possible, work with the students and guide them for the upliftment.

Q-13 Sir, your former role as a Freelance Journalist is very much reflected in the Scientific Publications and Pharmacy Articles. Please give in brief the contributions in Pharmaceutical profession as a journalist.

After completing my Pharmacy education, I have undergone a postgraduate diploma course in Journalism from Trivandrum Press Club which helped me to have some interest in journalism. I used to write for all most all Malayalam newspapers in the past on matters related to medicine or other health care science topics. Also written scripts for All India Radio and Doordarshan. Later started writing for English journals and news papers as per the request of people who cannot understand Malayalam. It was my teacher in Delhi University late Dr B.D.Miglani who compelled me to write some textbooks/ reference books for Pharmacy students and professionals.



Q-14 Please mention about your family and their support in performing equally in different areas in the Pharmacy Profession. Please share the best & worst moments in Life while doing multiple roles in the Pharmacy profession?

My wife Mrs G.Geetha is a retired additional secretary of Kerala Government. We have two children- elder daughter R.Veena who had her B.Pharm, M.Pharm and PhD from Annamalai University is working as a Pharmacy Professor at a Government controlled self-financing Pharmacy College at Kottayam. Her husband Abhijith Thampan is a Veterinary surgeon in the Government of Kerala. They have two children Adithya and Anamika. Our son R.Kiran is an IT Engineer running a software firm, 'Globe IT Solutions' in Kinfra Park Trivandrum which is having an office in the USA also. His wife Geethu is a Civil Engineer working with the Government of Kerala. They too have two children Adwaith and Abhinav. Entire family support is always a matter of joy and inspiration.

To be frank, I was always enjoying professional services, both at good and bad times. In 1992 I could start the Department of Hospital Clinical Pharmacy in Medical College Trivandrum. It was a commitment given to the health Secretary Sri Palat Mohandas IAS who was instrumental in giving me full deputation benefits for undergoing M.Pharm Hospital Pharmacy in Delhi University while working as a tutor in Pharmacy. He told me if

you for a PG in a new speciality availing benefits from the state Government, you should do something good for the state after coming back. Sri Gopal Krishnapillai IAS was instrumental in giving Government approval for starting the first department of Hospital and Clinical Pharmacy in Medical College Trivandrum in 1992. Starting of the Pharmacy Practice department in Medical College Trivandrum and becoming its head was one of the best events in my professional life in Government service.

Later in Government service after starting the Paying Counter, I had to suffer the hatred of a Health Minister for the reason that I had disclosed certain unethical and non-professional things happened in the purchase of anti-rabies vaccine for the Government of Kerala to a news channel whose reporter approached me for an interview. As I did not do any corrupt practice in my Government service, I expressed my professional views and opinion in the matter. After giving a message to me through some of my higher officers, I was transferred from Trivandrum Medical College to Calicut Medical College on the allegation that I had incurred expenses for providing 'biryani' to the Paying Counter staff and maintained a garden without permission from Government. I never made a request to him or his successor for a transfer back to Trivandrum. I could start some new PG programmes there and do the homework for the construction of a new block for the College of Pharmacy at Calicut Medical College. But that was a bad incident for my family.