

The six challenges to pharmacy practice in India

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The Indian pharmaceutical industry has made significant contribution to the country and very correctly, India is called as "pharmacy of the world". However, in the last 90 years, this has happened at the cost of practice of pharmacy. The best quality medicines used inappropriately may lead to failure of achieving the desired outcomes.

This commentary outlines the six challenges to the growth of pharmacy practice in India. An attempt has been made to detail the challenge and offer a practical solution to overcome the challenge. It would form an interesting reading for those who see the practice from the periphery and, often, come up with theoretical solutions.

While inaugurating the first Global Innovation Summit of the pharmaceuticals sector on Thursday, November 18, 2021, the Prime minister of India said "We have exported life-saving medicines and medical equipment to over 150 countries during the initial phase of the pandemic. We have also exported more than 65 million doses of CoViD vaccines to nearly 100 countries this year". This acknowledgement by the Prime minister not only underlines the fact that "India is the pharmacy of the world" but also reflects the trust in the Indian pharmaceutical industry.

The Indian pharmaceuticals market is dominated by generic drugs which constitute nearly 70% of the market, whereas over the counter (OTC) medicines and patented drugs make up to 21% and 9%, respectively. In August 2021, export of drugs & pharmaceuticals stood at US\$ 2.0 billion as compared to US\$ 1.97 in August 2020.¹ These statistics might appear impressive to the naïve. However, those who are in the pharmaceutical sector know well that the India has one of the lowest manufacturing costs in the world. It is lower than that of USA and almost half of Europe. This edge has been created by the pharmaceutical industry who have relied upon the rich educational background and the vast potential of the graduates and post-graduates coming out of the pharmacy schools in the country.

The first pharmacy college in the world - 'College de Pharmacie' - was established in Paris in 1777. In America, the Philadelphia College of Pharmacy was founded in 1821 followed by Massachusetts College of Pharmacy in 1823 and New York College of Pharmacy in 1829. India is one of the latecomers in the area of pharmacy education. The pharmacy education in India was started in Banaras Hindu University in 1932 by late ML Schroff, better known as "Father of Pharmacy in India". His

initiative was well received by none other than Pandit Madan Mohan Malaviya, a national figure and vice chancellor of the Banaras Hindu University. In July 1937, the course was re-named as B.Pharm.; and, in April 1940, the first M. Pharm. course (as a research degree) was started in BHU.²

The available records confirm that before India gained independence in 1947, there were only 3 institutions offering pharmacy degree programs. As of a conservative estimate, the total number of pharmacy institutions in the countries stands over 2000 in 2021.

The gain in the strength of the Indian pharmaceutical industry has been at the cost of pharmacy practice. Simply put, given the role models and the plethora of available job opportunities, the college pass outs had chosen to work in the industry. A very limited handful had opted for the pharmacy practice. This writing is a viewpoint detailing the six challenges to the growth of pharmacy practice in the country and offers some practical solutions as well.

It is important to realize that using a high quality drug product does not necessarily mean that the patients get better treatment(s). Using them 'correctly' is a major determinant for achieving the desired outcomes.

There are multiple real time examples of taking enteric coated tablet with or after food, thereby defying the whole purpose of the coating. And, while this could be happening around, the manufacturer is certainly not to be blamed. Largely, the sale and dispensing of medicines in the community is in the hands of freshers who 'gain' experience while at work. Hence, the role of the practicing pharmacists cannot be overlooked.

Pharmacy Practice is the discipline of pharmacy which involves developing the professional roles of pharmacists. Practicing pharmacists work in wards/ ICUs of a hospital,

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hospital pharmacy dispensing vertical, retail pharmacist ('chemists and druggists' on the boards one will see in the neighborhood market), drug information pharmacists, specialty pharmacists, counselors in hospitals and wellness centres. An essential component in the practice of pharmacy is owning up the responsibility of outcomes with drug or non-drug therapy. Essentially, it requires working in sync with the patients and the clinicians to ensure that patients receive medications appropriate to their needs.

NIPER, Mohali has started this discipline in 2002 after due consultation and caution. The preparation has been strong, with the first set of instructors sent to UK for a 3-week training in the various areas of practice of pharmacy. Subsequently, under the Higher Education Link programme of the DFID, managed by the British council, NIPER, Mohali received a 3 year long support to establish the department of pharmacy practice that offers M.Pharm. degree. Under this programme, the Medicine information Centre was established at NIPER, Mohali.

As of 2021, India has over 35 colleges offering 2-year M.Pharm. Degree in pharmacy practice/ hospital pharmacy/ clinical pharmacy. In contrast, there are over 250 colleges offering the 6-year Pharm.D. program.

American College of Clinical Pharmacy defines 'Clinical pharmacy as that area of pharmacy concerned with the science and practice of rational medication use'. The unabridged definition, however, is organized into three sections: the discipline of clinical pharmacy, the clinical pharmacist, and the roles of the clinical pharmacist in the health care system.³

A deeper look at the prevailing pharmacy practice in the country shall reveal that the pharmacy practice in the country is growing - in clusters. While the markers of service quality and performance indicators are in place for many other professions, the gap for pharmacy seems to be larger and the impact is killing. Mere availability of Good Pharmacy Practices guidelines does not necessarily translate into better quality of service.

The six issues identified to be challenges to the growth of pharmacy practice in the country are enumerated. In the subsequent paragraphs, each one of these is elaborated upon with proposed alternatives to adopt.

1. Availability of 'trained' teachers
2. Demonstration of skills
3. Networking among the institutions
4. Involvement with the community
5. Lack of robust and closer interaction with the clinicians
6. Sensitization of the younger students

Availability of 'trained' teachers

Practice of pharmacy cannot progress without learning the skills. And, acquiring skills is not possible without training. We have, most of the times, not been able to distinguish between 'qualified' and 'trained' personnel in work areas. And, this has meant that the qualified personnel slowly acquire the functional skills. This pace

is not acceptable for growth of pharmacy practice in our country.

The issue is compounded by the mushrooming growth of colleges offering B.Pharm courses. Exceptions apart, the teachers have never been into a practice environment. The treatment of subject like hospital/ clinical pharmacy is insipid and disoriented. The result is lack of clarity to the young minds on what is the practice of pharmacy. A contrast to consider is the law school where the learners have clarity on their future roles.

In academia, it is assumed that those who can teach certain subjects (clinical pharmacy, pharmacotherapeutics, EBM and so forth) will become exceptional pharmacy practice teachers/instructors. This belief has only led to creation of a pool of teachers who have completed a certain number of mandated hours of training in pharmacy practice. Essentially, it helps to meet the regulatory requirement and does not contribute to improve the quality. The author has flagged and underlined this gap in the year 2004.⁴

Demonstration of skills

Lack of skills (identifying the pulse/ injecting insulin to a family member) is yet another important factor that keeps the pharmacy students away from the areas of practice. It is a matter of common knowledge that a pharmacy graduate can elaborate to a large length upon the pharmacology of Digoxin. What is weird is the fact that that the student may not be able to identify a case of cyanosis in the neighborhood/ workplace. And, we are not talking about more serious events like angina attack, CHF or stroke. Personal experiences reaffirm the belief in the capability of the diploma in pharmacy students, who do much better in such situations. The difference is solely because of the training that they undergo.

The lack of training in life-saving skills, lack of knowledge of the dosage forms, no exposure to use of some simple devices only adds to the problems.

To improve the practice of pharmacy, there is a need to build a stronger skill set at the younger level. In light of these, it is advisable that each pharmacy institution should divert their resources towards 'real-time' training of students. The starting point could be as simple as identification and/or use of hypodermic needles. This shall be easier to do with 'trained' teachers at the pharmacy schools.

Networking among the institutions

It is to be noted that individual institutions are promoting the practice of pharmacy through established frameworks. In this context, it keeps a lot of relevance that institutions with similar interests go for networking. The informal framework networking & collaboration does not seem to be working well. And, the decision makers invest 'much more than needed' time and energies to get into the formal framework for networking.

An example in this context is the effort to conduct studies on utilization of medicines or more specifically antimicrobial agents. Several research groups/ institutions

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are working on this in the country; however, the protocols adopted are divergent. The studies are excellent when viewed 'individually'. The irony is that the results do not add to wisdom on the matter. It is very much in order, at this point, to mention that World Health Organization has standardized protocols in the open domain on multiple areas.

In a country like ours, numbers are an inherent advantage. The institutions/ research groups working on a common theme need to adopt a 'common' experimental protocol so that at the completion of the study, one can -at least-understand the differences in the patterns of consumption of medicines at different locations.

The author believes that there is an intense need for research groups to work more closely.

Involvement with the community

The choice of pharmacy graduates not to work as a practicing pharmacist is understandable, given the poor compensation and still poorer acknowledgement. In 90 years of time, the concept of 'compounder' has not faded off the minds of people in our own houses. This notion finds its roots in the fact the pharmacy students lack the basic skills, mentioned above. And, this adds to lack of identification as a pharmacist.

It has become a ritual to take out a rally across the neighborhood on the occasion of the National Pharmacy Week. On such rallies, it is pleasing to see the neat white aprons. It is only lately that some institutions have started to put up camps for the benefit of the community. The people in the community are not aliens. Their queries are very natural - what should I do if I miss my morning medicine?, What should I not eat when I am having a certain disorder?, I am diabetic, and can I replace my breakfast with something else when I am travelling or away from home?, when should I expect relief from the throat pain I am having?, Is my medicine going to cause long term side effects?, and so forth. As long as the pharmacy students are unable to answer these points with confidence and clarity, the family members shall continue to look for solutions at the retail chemist shops or use internet to find out the answers. Since the quality of information available on internet is doubtful many a times, the window of opportunity lies here.

Of special interest are the elderly patients who receive multiple medications and have all the time plus willingness to know more about the medicines they are on. As India grows, the number of elderly people is going to swell and a special cadre of 'geriatric pharmacists' is on the horizon.

Lack of robust and closer interaction with the clinicians

In the experience of the author, nothing works better than this. The kind of expertise clinicians have is exceptional when it comes to management of disorders. There are instances when a medicine is not required at all.

The wiser pharmacists understand their domain of having expertise in pharmacokinetic principles, pharmacology of drugs and the pharmaceutical business. As long as the

pharmacists maintain their boundaries, the clinicians are very comfortable working together. The pharmacists need to understand the implications of issues around ethical principles of biomedical research.⁵ Which need to be adhered strictly while working with clinicians/ and human participants.

Partnering with clinicians requires perseverance. The understanding of the canvas in which they operate is equally critical. Currently, many pharmacy schools do not address this. The best route that the practicing pharmacists can take is to start as backend support to the clinical process. A word of caution here - Jumping the line and getting into interacting with patients or the care providers can cause long term damage.

Sensitization of the younger students

With the above in view, no doubt that within India there are a variety of explanations of pharmacy practice. Someone capturing data on a set of patients and bringing out some statistics from that data-set could claim to be working in the domain of pharmacy practice. Such enthusiasm of some researchers is causing more damage to the total scenario.

It is, therefore, very much appropriate that those who have been themselves in the professional practice of pharmacy use their wisdom and judgement to sensitize the younger students at colleges and even pharmacy colleges. While PowerPoint presentations are an accepted standard for any presentation in the current times, it shall make an entirely different impact if examples from the 'real-world' setting are shared with the younger and inquisitive minds. Larger and established schools of pharmacy practice have a greater responsibility and they are well-positioned to address this.

In conclusion, it shall suffice to say that the growth and advancement of the pharmaceutical industry needs to continue. And, there is a big scope for the practice of pharmacy to improve in India.

The author understands that there could be many other factors that have a role to play. However, this viewpoint is absolutely personal and the understanding of the reader is solicited.

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