Pharmacy in Mexico

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While in Xicotepec, we noticed pharmacies on almost every block. The pharmacy in this picture is a depiction of what a smaller pharmacy in Xicotepec would look like. These smaller pharmacies were all over the town but the two larger pharmacies were on the square and in the marketplace.

When going into pharmacies to ask questions, most workers were very friendly and helpful. The smaller pharmacies definitely did not have as much inventory as the larger pharmacies and their staff did not speak as much English.

When going into the marketplace pharmacy, we spoke to the owner. She was not a pharmacist and spoke English very well. She informed us that we could more than likely get any medication we wanted, with the exception of controlled substances such as amphetamines and narcotics. She informed us that she worked in her pharmacy from 8AM to 8PM on all market days and with a bit shortened hours on other days. She said she did not have a pharmacist working there but felt comfortable recommending medications for colds and other common ailments.

The second pharmacy we entered and interviewed was the largest pharmacy we saw while in Mexico. The owner we talked to also spoke English very well but was not a pharmacist. We asked him why pharmacists in Mexico usually don't work in the retail pharmacy setting and he replied that they were mostly research oriented. He said that he was in charge of inventory, dispensing, counseling and making recommendations on what medication a patient should receive. We noticed he did not run the cash register. He said that he felt very comfortable recommending medications. We asked him how he recommended antibiotics and he said that a lot of what he recommended was based on the time period the patient was coming into the pharmacy with the illness. If the patient presented at the beginning of flu season versus the end of flu season it would alter his decision on what the patient should have. He also stated that he did not recommend hormonal birth control for anyone due to the risks that are present when taking estrogen and hormonal contraceptives. He said there were some patients that would come in with prescriptions but most did not. He also said that he did not have controlled substances like narcotics on his shelves but special pharmacies did, and that they did require a prescription to obtain.

Both pharmacy managers/owners were very willing to talk to us about pharmacy and their stores. The larger pharmacies were much different than the smaller, more numerous pharmacies found in Xicotepec. We learned a lot about pharmacy differences between cultures and reflected on how theses differences affect the people in need of medication.

Pharmacy in Mexico is more about the business and less about patient care. For the most part it is wealthier individuals who can start a pharmacy, and it makes a good profit. It is a business put in place to earn a living and is oftentimes family run. Many people working at the pharmacy have limited clinical expertise, if any. Many will have a reference manual such as the Physicians Desk Reference. Many times these references are outdated and no longer relevant. It was interesting to compare prices of medications between Mexico and the US. The general population for the most part would expect medications in Mexico to be cheaper, but after the \$4 generics rolled out, many medications can be obtained cheaper in the states. There is a lack of general practice laws/guidelines from pharmacy to pharmacy. Some pharmacies follow strict practice guidelines, and will not allow certain medications to leave the pharmacy without proper documentation. Others, if you have the money or bargaining power, one may obtain any drug behind the counter. Some employees are very knowledgeable about medications and can offer great recommendations, and others lack any pharmacy skills.





History of Pharmacy in Mexico

International Pharmacy Journal (IPJ). Dec 2008, 23(2) FIP Article Human resources in pharmacy and health in mexico.

1833

Dr. Jose Maria Vargas was the first educator of pharmacists and continued his career for more than 40 years.

1916

National School of Industrial Chemistry opened, focusing education in Mexico to train chemists and marking the shift to chemical products pharmacy.

Pharmacy in Mexico has evolved greatly since 1833. Presently, Mexico trains biological pharmaceutical chemists (QFBs) who focus more on manufacturing pharmaceutical products rather than the clinical focus we are familiar with in the states. Their training programs are more easily related to our Ph.D. programs rather than our Pharm.D. programs. However, Mexico has begun to shift to cover the needs

for providing patient care in pharmacies, as 70 to 80 percent of prescriptions currently dispensed by non-pharmacist professionals have an error.

In 2008, plans were made to graduate 3000 pharmacists with a focus on hospital pharmacy practice as well as patient care pharmacy by recommendation of the WHO and International Pharmaceutical Federation. They plan to have pharmacists in all hospitals, at least, as well as in each state in Mexico to accommodate the 111 million Mexicans by 2010.

Only 31% of Mexico's 51,186 pharmacies employ a QFB, who has the ability to dispense psychotropic agents and would have a chance to meet the accreditation standards of the United States. Mexico struggles in public recognition and certification programs to ensure appropriately trained individuals are involved in patient care.

Future of Pharmacy in Mexico

During our time in Xicotepec, we had the opportunity to work with Alejandra Sánchez Cortés, a pharmacy student from Benemérita Universidad Autónoma de Puebla (BUAP). Alejandra has been a participant in Xicotepec project for the past few years, and has been a huge help with running the deworming lines and helping us pharmacy students to understand what Pharmacy is like in Mexico.

According to Alejandra, most pharmacists in Mexico work in medicinal laboratories, especially in the area of quality control. Other pharmacy jobs include managing or owning a community pharmacy; working in an 'herbalist' or 'natural products' pharmacy; "Representante Médico" which is essentially a Pharmaceutical Representative; teaching in High Schools (Chemistry, Biology, and math courses) and also working in research- generally in the areas of pharmaceutical technology, biochemicals, chemical synthesis, and occasionally in pharmacology and toxicology.

As of now, the clinical/hospital area is considered to be the doctor's territory. When pharmacists do work in hospitals it is typically only to oversee the pharmacy that is within the hospital. More often, the pharmacy duties within a hospital are mostly handled by nurses who work closely with physicians.

More recently, however, the importance of a pharmacist's role and presence within the hospital is becoming more recognized . "Farmacovigilancia" is the term used to describe the supervision of medicinal treatment- which includes monitoring for excessive use of controlled substances, overlooking the practices of the physician, checking drug interactions, and most importantly ensuring proper use of medications and treatment in patients. In general, doctors are opposed to this kind of oversight, and 'The General Law of Health' (which is the official document put out by the surgeon general of Mexico) does not yet legally recognize pharmacists or the need for "Farmacovigilancia"- likely because they don't understand exactly what it is that pharmacists do and the impact the they can have on patient care.

Pharmacy, as a profession, is fairly a new thing for Mexico. While QFB's have had a presence in Mexico for a while, Pharmacists have only come to exist in the last 10-15 years. QFB's typically concentrate their study down one of three paths: Pharmacy, Clinical work (laboratory analysis of blood, urine, feces, etc), and the food industry. A student who studies to be a QFB has many more options than if they had studied to be a pharmacist- because QFB's are able to work in a larger variety of industries no matter what area they emphasized during their studies. For example, a QFB who concentrated on Pharmacy can still work in the food industry.

Studying to be a pharmacist in Mexico involves 4-5 years of schooling at a university. For most students (unless you have a really high GPA), a thesis is required to complete the degree, which usually takes about 1 more year. During this schooling, there are no rotations like what we have in our pharmacy programs in the States, but there is the option of doing 6-12 months of something similar to a residency. For all college graduates in Mexico, it is required that you do 1-2 semesters of 'social service'- which is basically working for free in something related to your field. This may seem strange, but public education is made extremely affordable in Mexico(approximately \$50-\$100 per semester) and the time spent in social service is a way of paying back the country for your education. For Pharmacy, the social service is often spent in industry, hospital, or in labs of the university, and sometimes students can be hired on afterwards.

Unfortunately, it is not uncommon that students will graduate as a pharmacist of QFB, but then end up working completely unrelated jobs because the salaries are not that great. At Walmart, a full time pharmacist earns around \$350/month. Walmart is one of the lowest payers, but even in pharmacies who do pay well the salary is around \$1000-\$2000/month. A pharmacist who is able to start up his own lab makes some of the best money, \$2000+/month. To put this in perspective, a typical factory worker earns around \$200/month.

Most students who set out to study pharmacy have a dream of working in a laboratory, but reality is often different than what we dream. The minority of students who obtain their degree in pharmacy actually utilize their degree to make a living. This is not just true of pharmacy- this is true of other professions in Mexico. Dr. Horacio Olivo, an organic chemist and professor at the University of Iowa College of Pharmacy who is originally from Mexico, told me abou a QFB in Mexico the he knew who worked as a translator; and another man he knew had a degree in Veterinary Sciences but he sold wine and never practiced as a Veterenarian. The fact is that with Mexico's shrinking middle class, these professions often times do not make the cut so people are forced to find a livelihood elsewhere.

The future is looking brighter for pharmacists in Mexico. As of right now, antibiotics can be sold over the counter- but due to problems with resistance the country is passing a law in the near future to require that all antibiotics be kept in a locked cabinet and are only to be dispensed with a prescription. This is prompting a need for better pharmacist care and control at pharmacies. Also, there is a Masters in Hospital Pharmacy degree program that is rumored to be coming to BUAP in the

near future. This degree would require 2 additional years of schooling and appears to be a more clinically oriented degree for providing pharmaceutical care in hospitals.

If Alejandra is any sort of predictor, I would say that right now the pharmacy profession in Mexico is building a lot of steam and really getting ready to step up and help Mexico meet its needs for better health care.