

### Maternal and Child Health in Pune, India

I completed a four week global elective through an organization called Child Family Health International. The program I chose is called Maternal and Child Health and is located in Pune, India. The local coordinators in Pune (Dr. and Mrs. Dabak) have a variety of contacts throughout the city so that students can choose to experience different clinical sites during their rotation. The schedule consists of spending Monday through Friday at a clinical site and having the weekend for site-seeing and traveling. During my time in India, I focused on obstetrical care and women's health.

The first week of my rotation I spent time at a government-run facility called Kamla Nehru Hospital. This is a large, multi-disciplinary hospital that also serves as a training site for resident physicians. The schedule varied day-to-day depending on how many patients were in labor and the surgical schedule, but generally in the mornings there was a gynecology outpatient clinic and the majority of scheduled surgeries and in the afternoons there was a prenatal outpatient clinic.

Monday, I spent most of the day in the labor room. I saw one C-section and three vaginal deliveries. I was able to assist with one of the vaginal deliveries. The residents and physicians were very good about answering questions and including me as much as possible with patient care. Tuesday, I spent time in the gynecology outpatient clinic and learned more about the family planning and immunization programs offered through the hospital. Family planning is a big part of obstetrics in India because the country's population is currently outgrowing its resources. In the afternoon, there were two vaginal deliveries and I also attended the prenatal clinic. We saw about 100 patients in three hours – it is a very high volume clinic. Wednesday and Thursday, I spent the mornings in the labor room, where I saw how patients with severe anemia and pre-eclampsia are managed, and I spent the afternoons in the prenatal clinic. Friday morning I toured the NICU and spoke with the neonatologist about the types of patients he manages. I then spent the remainder of the day in the OR where I saw a variety of procedures and was able to scrub-in for one C-section. I also spent the following Monday at Kamla Nehru Hospital for a total of six days at this clinical site. I enjoyed this site because I was able to have hands-on experience and we were very busy seeing several patients each day. I feel like I improved my clinical skills because the hospital has limited resources and therefore does not order many laboratory or diagnostic tests. Most of the medical decisions are based off clinical diagnoses alone.

On Tuesday and Wednesday of the second week, Dr. and Mrs. Dabak scheduled a visit to a rural area of India. During this time, I learned more about how healthcare is distributed to rural locations throughout the country. There is a tier system of a few large hospitals overseeing several smaller facilities. The largest hospitals are the Division Hospitals. These hospitals are usually located in larger cities and are each affiliated with a medical school. They serve as tertiary care centers and are referral centers for the smaller facilities. Under the Division Hospitals are the Rural Hospitals. These hospitals are usually run by an obstetrician or a

pediatrician (thus showing the emphasis placed on maternal and child health) and provide both outpatient and inpatient care, along with laboratory and pharmacy facilities. Under every Rural Hospital there are six to eight Primary Care Centers. Each center serves a population of between 30,000 to 50,000 people. Last, but not least, there are Subcenters distributed throughout the service area of each Primary Care Center, in order to further increase peoples' access to healthcare. Each Subcenter employs a medical officer, a nurse, and a midwife and these people are responsible for testing local water supplies and monitoring for any infectious disease outbreaks.

On Tuesday, I toured a local Rural Hospital. This hospital conducted Direct Observational Therapy for TB and was also a distribution center for HIV medications. The lab technicians showed me sputum samples positive for TB and blood smears positive for malaria. It was very interesting because these are diseases that I had never encountered in patients during medical school. Tuesday night, we stayed at a home owned by the Dabaks in a local village. This was a great cultural experience because I was able to tour the village (statistics state that 70% of India lives in similar conditions) and Mrs. Dabak explained to me some of the history of the village and some of the present challenges that its occupants are facing. The Dabaks are part of a foundation that has been providing social services to this village for several years.

On Wednesday, I spent time at the local Primary Health Center. I spent the morning in the outpatient clinic and learned about the common conditions seen at the center. It was interesting because the differential diagnosis included diseases that I do not usually consider, such as leprosy, TB, and malaria. On the day I was there, many of the patients complained of fevers and malaise. Respiratory infections are common due to cooking over open fires and air pollution, and during the rainy season, diarrhea is a common complaint. During the afternoon, I attended a prenatal clinic where we saw about 50 obstetrical patients.

During the remainder of the second week and for the entire third week, I spent time at a private obstetric and gynecology hospital that was owned and run by one physician, Dr. Dugad. The hospital was located in a shopping center and had an outpatient clinic, about 14 inpatient beds, a labor room, and an OR. He had outpatient hours everyday from 11:00 AM to 1:00 PM and from 6:00 PM to 8:00 PM, with the majority of his surgeries being scheduled in the morning. The patient population seen at his hospital are of a higher socioeconomic status than patients seen at government hospitals; however, the first day I was with Dr. Dugad, we traveled to a local government hospital where he performed a hysterolaparoscopy. He often does surgeries at this hospital free-of-charge since it serves a lower socioeconomic population. He specializes in infertility treatment and endoscopic surgery; therefore, many of his outside consultations concern one of these two issues.

Dr. Dugad did not see as many patients as were seen at Kamla Nehru Hospital; however, I enjoyed my time at his hospital. I was often there for 12-14 hours per day and during down time, Dr. Dugad would teach me about Indian culture and ask me questions about the United States, comparing medical practices in the two countries. Throughout the seven days I was with Dr. Dugad, I saw several C-sections, dilation and evacuations with tubal ligations, hysterectomies, and endoscopic surgeries. Because Dr. Dugad specializes in infertility treatment, he also offers treatment for varicocele. He had one patient undergo varicocele repair while I was there, and I

thought it was interesting that he had a urologist assist with the surgery, but the patient stayed at his hospital and was ultimately under his care. The most interesting patient that he had during my rotation was a patient with adenomyosis. She walked into the outpatient clinic with a hemoglobin of 3.5. She also had rheumatic heart disease, which made her case even more complicated. She received 6 pints of packed RBCs and then underwent a hysterectomy. The surgery went smoothly and she recovered with no complications.

I saw several medical termination of pregnancies during my time with Dr. Dugad. MTPs are legal until 20 weeks gestational age and can be performed due to pregnancy posing a health risk to the mother, if the fetus has an anomaly that is not compatible with life, or for failed contraception. The most common reason Indians undergo MTPs is for failed contraception. Dr. Dugad told me that there is no negative social stigma associated with MTPs in India. Many families cannot afford to have several children or often women become pregnant when their youngest child is less than one year old and they would prefer to have more time between children. Dr. Dugad and I also discussed the role of Pap smears for cervical cancer screening. Pap smears are not routinely done in private or public hospitals and cervical cancer is one of the leading causes of death for Indian women. The pharmaceutical companies are trying to promote Gardasil; however, the vaccine is expensive and even patients that can afford it are reluctant to agree to it.

I spent the Monday of my final week at Galaxy Hospital, which is a private hospital specializing in endoscopic surgeries. I think this was a good experience because it exposed me to a hospital that does not have limited resources, and thus does not fit the stereotype of a hospital in a developing country. This is an internationally known hospital that performs complex surgeries and they even have a robot to use for certain procedures. The day I was there was a public holiday, so I only saw one procedure; a laparoscopic gastrectomy for gastric cancer. This hospital did not give any hands-on experience; however, it demonstrated the wide variation in healthcare services available in India, depending on what patients can afford.

I spent the last four days of the rotation at Sutika Seva Mandir Hospital, roughly translated it means the temple of caring for pregnant women. It is a small obstetric and gynecology hospital funded by a trust and serves a lower socioeconomic status population. They have about a 20-bed inpatient unit, an outpatient clinic, a labor room, and an OR. They conduct about 100 deliveries per month – they are very busy. There were no set hours for the OR at this hospital and surgeries occurred throughout the day. Most days there were also morning and evening outpatient clinics.

The first day I was there, I saw two C-sections, one vaginal delivery, an ovarian cyst removal, and a dilation and evacuation with laparoscopic tubal ligation. I was able to have hands-on experience at this hospital, mostly in the outpatient clinic. Although I could not take patient histories because I did not speak the language, I was still able to see patients initially on my own and take their blood pressure, palpate the uterus, and listen for fetal heart sounds. The second day I was there, there was only one surgical procedure; a cervical cerclage. I spent most of the day in the outpatient clinic and learned how to give IM injections. It is protocol to give patients in their second trimester a tetanus vaccine, and so once I was taught how to give injections, I was able to be even more independent in the outpatient clinic. The third day I was

there, I saw three tubal ligations, a medical termination of pregnancy, and two vaginal deliveries. The last day, I saw five C-sections and a tubal ligation.

The most interesting patient I saw at Sutika Seva Mandir was a patient at 36 weeks gestation who had malaria. The physician had difficulty managing her fever and she was chronically anemic and showing signs of DIC. The patient was not able to receive any anti-malarial medications because they are unsafe for the fetus. She eventually went into premature labor and the baby was stillborn. After the delivery, the patient recovered with no complications and clinically improved throughout the remainder of my time there. Both at Sutika Seva Mandir and Kamla Nehru Hospitals, patients often presented with more severe disease pathology that I had ever seen in the United States. This is because they have limited finances and limited access to healthcare, so they often do not come to the hospital until they are very sick.

Overall, I had a great experience in India. I feel like I was able to see a variety of clinical sites and was able to learn about the healthcare delivery system as a whole. The physicians, residents, and nurses that I worked with were very welcoming and included me as much as possible with patient care. They were also very good about answering my questions and teaching me about different cultural considerations that they knew I hadn't encountered in the United States. The patients were also receptive to having a foreigner involved with their care. Not every site was conducive to hands-on learning; however, I felt like I had enough hands-on opportunities and even when I had to shadow, I was still engaged in learning. Child Family Health International is a great program and they made this experience very easy and fun.