Mid-Trip Reflections of the Harvard MIRT 2017 Fellows

MIRT Peru Fellows Ana, Jae and Oswaldo posing with Perú’s Districts (left). MIRT Ethiopia Fellows Colbren, Keona, Sarah and Deja on Addis Ababa University’s campus (right).

“The experiences I have had so far in Ethiopia, has motivated me to begin thinking about a career that incorporates epidemiologic research on a global and local scale, but to also take action by creating programs that address and ameliorate the health disparities of communities. I have opened myself to a world and a way of living outside of the comforts of my own, and am ready to continue on this journey even after I leave Ethiopia.” - Deja Washington, Harvard MIRT 2017 Ethiopia

“I want to thank the Harvard MIRT Program, the staff at El Hospital del Trabajador, my host family, and most importantly, the many patients who have shared their stories with me, expecting nothing in return, but giving me so much. This experience will continue to drive my work both in Santiago and beyond so that I can find ways to not only give back to these communities, but also ensure that other underrepresented students have opportunities like this in the future.” - Ana Manriquez Prado, Harvard MIRT 2017 Chile

“Each day, I feel incredibly grateful to have been granted this unique opportunity which is contributing to my growth - both as a scholar and as an active, caring member of the global community.” - Jae Williams, Harvard MIRT 2017 Peru
Keona Wynne  
Undergraduate, Howard University  
MIRT Site: Ethiopia

Keona’s Mid-Trip Reflection

My time in Ethiopia has been unbelievable. It is truly a beautiful country with amazing people. And of course, the food is amazing!

It’s hard to pinpoint a single thing as my favorite part of the trip. Each part of the trip was beautiful in its own way and has helped each of us uncover our paths. The Hamlin Fistula Hospital was a life-changing experience. It is easy to believe that one person is not capable of changing the world; however, Drs. Catherine and Reg Hamlin did just that. The holistic care that the Hamlin Fistula Hospital provides to the patients does much more than treat the problem with contemporary medicine. It empowers the women to believe in themselves and start a new and better life.

The same can be said for African HIV Orphans: Project Embrace (AHOPE). Immediately when I walked into the orphanage, it was overwhelming to see the amount of love shown by the children. They were happy to have us there. As we toured the facility and saw the dreams and aspirations of the youth, such as, a doctor, lawyer, scientist, and judge, it was easy to see that the kids believed that they were capable of anything.

They did not let HIV/AIDS define them or their dreams, it was simply a part of who they are. Again, the comprehensive care provided by AHOPE to the children was astonishing to see. The independent living system, designed to help young adults adjust to life after the orphanage and group homes, helped the kids feel more confident that they can contribute in a positive way to society. Both of these organizations really highlighted the love and pride of Ethiopians in their country.

Ethiopia is rich in culture (and coffee)! We were fortunate to be able to tour the old palace of Emperor Haile Selassie and read about the culture. It is incredible how they preserved his dwelling. His pet lion, Gilo, is also there preserved as well! Things really came full circle when we saw the U.S. embassy and spoke with the Deputy Chief of Mission to the African Union and staff members from the USAID and the US Center Centers for Disease Control and Prevention. Emperor Haile Selassie founded the African Union here in Ethiopia during Western colonization to unite the African Countries. Speaking with the Deputy Chief of Mission to the African Union, Mrs. Jessica Davis Ba, really showed how Africa, as a whole, is still working to overcome many issues in the realm of health, economics, and politics.
Keona’s Mid-Trip Reflection cont.

The Africa Summit itself was the first week that we arrived in Addis. Most of the city was blocked off, but we were able to see the billboard in the main Maskal square with the 7 initiatives for Africa, most related to health, economics, and security. While the goals are not set to be achieved for quite a while, it will be exciting to see the great strides the countries make in the next few years.

We still have quite a bit of our fellowship left, and it will be exciting to see how the rest of our time here impacts us. Going forward, we all already know that we must remain in foreign affairs in relation to Africa for the rest of our lives. Next week, we are heading to the legendary Axum and Lalibela. Every time a local stops to chat with us, they always ask if we have been, it will be exciting to say that we have! We also hope to be able to tour the African Union before our final presentations at Addis Continental Institute of Public Health. Of course, we get to spend a week at AHOPE as well! All in all, there is still much to see and do in Ethiopia!

Colbren’s Mid-trip Reflection

This trip has been more than a research opportunity, it is a life-changing experience. I can now see my initial expectation coming to Ethiopia may have been narrow minded. My main concern was how or what could I do to help or promote progress in Africa. I was confident that I could help shed light on growing health issues that plague Ethiopia and its people through our research project. I never thought about what Africa and its people might show or teach me. From their cultural cuisine, music, traditions, to their history it has all left a lasting impression on me. Undoubtable the food is amazing, with the flavors and different spices, it creates a savory taste unique to Ethiopia. I believe the other Harvard MIRT Fellows and I have fallen in love with shiro. However, here dinner time is more than a time to eat, it is a time to sit, enjoy, and connect with the people around you. Coffee is more than a source of caffeine, it’s a way of life in Ethiopia. A major staple in their diet, coffee was first harvested here in Ethiopia. At least once a week, most families perform a coffee ritual, where the women of the house spending hours brewing coffee from coffee beans in a kettle over a wood-fire. This process gives a chance for the family to come together and enjoy each other’s company.
I can’t help but notice the infectious sensation to embrace and uplift others. This feeling originated in the locals, who are proud of their customs and traditions, and spreads quite easily to countless individuals who have visited this country. Dr. Hamlin, a gynecologist from Australia, started the fistula hospital in 1974 during the height of Ethiopian government unrest. She saw a need to provide comprehensive care for women who suffered fistulas, primarily due to unattended childbirths, and often became disowned from their families. She provides a haven for them, allowing the women to receive medical care, rehabilitation services, and social and financial support to reenter society. Dr. Hamlin is a true advocate for the empowerment and progress for women’s health in Ethiopia.

AHOPE, an orphanage for HIV positive children, has also become a symbol of hope for the Ethiopian community. AHOPE’s mission, to give HIV positive orphans and vulnerable children a better life, goes above and beyond by developing key programs to help the children become self-reliant, confident, and capable citizens. I look forward to spending time connecting and having fun with the children at AHOPE in the coming weeks.

Ethiopia has shown me how people of different religions, values, and ethnicities, who have shared and different histories can congregate and live peacefully. Here, it does not matter what class or level in society you may be in, there seems to be a mutual level of respect for everyone. Every person I meet, whether rich, poor, old, or young, there is sense of happiness that radiates through them. **Although I have only been here for half of my Harvard MIRT summer fellowship, I now know that wherever my career may take me I would like to serve others and aid in the ongoing battle to eliminate health disparities worldwide.**
Deja’s Mid-Trip Reflection

Deja Washington
Undergraduate, Xavier
MIRT Site: Ethiopia

Ethiopia became the place of inspiration for many paths in public health. When we first arrived in Addis Ababa, our first instinct was to go back to our way of life in America. Slowly, we began to venture into the city, learning more about the many ethnicities of the people and their strong traditions and faiths, which was all captured in Addis. Upon speaking to many Ethiopians, Lalibela and Axum exploration became the topic of discussion. They felt that one could not experience Ethiopia unless they go to those places. There is never much detail about why Lalibela and Axum when they bring it up, but I think when we go; an explanation might not do the places justice. I have really began to understand the official country’s language, Amharic, from our daily interactions with our colleagues at the Addis Continental Institute of Public Health, but also from our regular interactions with people in restaurants, shops, and public transportation. I really enjoy listening to Teddy Afro when we travel around the city. He is a very popular and influential singer from Addis, and anytime you bring up his name, it is always met with a smile. So far, we visited the Fistula Hospital, AHOPE, and the US Embassy. In the Fistula and AHOPE trips we learned about and met incredible people who have made impactful careers on the initial hope to just help those in need.

For example, the antiretroviral therapy has become a symbol of hope and longevity for many children and adults in Africa according to the representatives at AHOPE. I truly admired the steps or pillars in both programs to not only help people, but to integrate them back into society in a way that builds self-esteem and opportunities for a better life. We received an extraordinary offer to meet with the Deputy Chief of Mission to the US Mission to the African Union, two members of the USAID for the US Mission to the African Union, and the technical advisor to the Africa CDC. I become even more eager to want to create changes throughout the continent and back home. The experiences I have had so far in Ethiopia, has motivated me to begin thinking about a career that incorporates epidemiologic research on a global and local scale, but to also take action by creating programs that address and ameliorate the health disparities of communities. I have opened myself to a world and a way of living outside of the comforts of my own, and am ready to continue on this journey even after I leave Ethiopia.
It is crazy to think that we’ve already been living in our home in Addis for almost a month now. The time has flown by, filled with lots of rewarding work, adventures, and experiences. The staff at the Addis Continental Institute of Public Health has become our second family, helping us learn, experience their culture, and find our way around the city. The highlight of my workdays here has been the twice daily coffee/tea breaks at the institute. Chatting with our local mentor Hanna, the institute’s founder Dr. Yemane, or our “local mom” Meskerem over a cup of traditional Ethiopian coffee is the best way to briefly relax before returning to work on our research. Diving into our research here has provided the opportunity for me to learn more quantitative research skills, as well as the methods employed to communicate this type of research to a scholarly audience. This will certainly be a skill I use regularly throughout my life as I look toward graduation and the future research I hope to do.

In our free time, we’ve been able to experience the beauty of the Ethiopian countryside on a few hikes. Our first hike was just outside the city with Hanna, and we were able to meet a lot of locals, as well as see various plants and animals. We were able to see hot springs, waterfalls, and monkeys while there. The lake was astoundingly beautiful.

One of the highlights of the experience for me so far was our visit to the Hamlin Fistula Hospital. I had done previous research on obstetric fistulas in sub-Saharan Africa, and knew about the wonderful work of the hospital, so I was so excited to see it firsthand. The care is even more holistic than what I already knew, with free physical, mental, and emotional support being provided to these women who are so often hurting in many ways. Walking the grounds and seeing the joy on these women’s faces was an inspiration—a sight that taught me that even in a low-income nation like Ethiopia, holistic and empathetic care can be provided that rivals that of what we receive back home.

The Ethiopian culture really is full of such rich tradition, history, and diversity. As an anthropology student, I am enjoying observing the differences between our American lifestyle and the one here, in addition to the differences I am seeing between various lifestyles in Ethiopia itself. In the coming weeks, we will be heading north to Axum and Lalibella, where I am looking forward to seeing even more cultural diversity. Listening to others, sharing our ways of life, and gaining new understandings is truly my favorite part of traveling, and so I am grateful to be able to do this while working on a relevant public health problem.
Last night I was telling my host mom about my experience shadowing Dr. Vélez at El Hospital del Trabajador here in Santiago de Chile. I told her how one of the hardest parts of the experience has been listening to the patients’ life stories because they bring about deep feelings of empathy, love, and even guilt, but that I was sure that one day I’d get over it and be stronger. She responded by telling me that she hoped I’d never get over it. I was taken aback at first, but she explained that those emotions are not ones that we should “get over.” They are instead feelings that we learn to manage, but should never stop feeling, because when we do, we lose that part of us that makes us human and that drives our work. Hearing her say that made perfect sense, but I hadn’t thought about it in those exact words before. Often, I can be very hard on myself for being an emotional person and for allowing myself to feel things “too deeply.” However, my conversation with my host mom reminded me that I never want to lose that part of myself completely. While some may see it as a weakness, for me it has always been a strength. It’s what drives me forward and it’s where my passions stem from. Those emotional connections that I so easily develop motivate me to bring change not only to my own life, but to the lives of others because they instill in me both perseverance and a strong sense of discernment.

This is what my experience in Chile through the Harvard MIRT Program has focused on for the last four weeks. While I’ve had the privilege of studying abroad in the past, my experience in Santiago has been completely different from anything I’ve done before. Chilean culture is beautiful and rich, however it’s very different from my own and becoming accustomed to the food and social norms has taken some getting used to. Furthermore, writing our manuscript and shadowing doctors has been exciting and an incredible learning experience, but it has also required a lot of focus and determination. Amid all this, I’m constantly reminded of who I am, who I want to become, and who I want to remain—allowing me to grow professionally and personally in unexpected ways.

The idea of traveling and living abroad carries with it a glamourized notion that leads us to believe that it’s all fun and a good time, however, it’s also hard. It’s hard to be in a new country, meet new people, and leave your comfort zone, but at least in my experience, those difficult positions have been where I’ve found the most growth and my most meaningful life memories. I want to thank the Harvard MIRT Program, the staff at El Hospital del Trabajador, my host family, and most importantly, the many patients who have shared their stories with me, expecting nothing in return, but giving me so much. This experience will continue to drive my work both in Santiago and beyond so that I can find ways to not only give back to these communities, but also ensure that other underrepresented students have opportunities like this in the future.

“Everyone you will ever meet knows something you don’t.” – Bill Nye
My time in Chile has been nothing short of amazing, and it’s difficult to believe that I have learned so much in such a short amount of time. It’s even harder to believe I am already halfway through my Harvard MIRT fellowship. While these past few weeks have gone by incredibly fast, they have also been filled with great experiences both inside and outside of the Hospital del Trabajador. I’ve learned so much from our mentor Dr. Vélez and the other healthcare professionals at the hospital. My host family has also been instrumental in helping me get around Chile and every day I feel a little less like a foreigner. At the hospital, I have especially enjoyed shadowing Dr. Vélez and learning about his work in the Rehabilitation Department. I had the opportunity to meet several patients, understand how the healthcare system works in Chile, and see how the doctors in the Rehabilitation Department work as a team with other healthcare professionals to provide the best possible care to their patients. In addition to shadowing Dr. Vélez, I have worked on data entry for another study at the hospital called SPLENDID. I have also learned a lot from Dr. Gillibrand, the psychiatrist who treated the 33 Chilean miners involved in the 2010 Copiapo mining accident.
He has been very helpful and it was extremely interesting to learn from someone who was directly involved in the mental health of the miners after their tragic accident. Ana and I have also finished the first draft of our manuscript on the construct validity and factor structure of a Spanish language version of the social support questionnaire among pregnant Peruvian women. Writing my first manuscript on an actual research project with important implications for women’s health has allowed me to understand the importance of epidemiological research first hand. Learning about study design, data analysis, and interpretation of results has also provided me with invaluable skills that I know will continue to aid me in my path towards becoming a medical professional and researcher. Furthermore, being at the intersection of research and patient care has shown me that it is not just possible, but truly rewarding to combine epidemiological research with a career in medicine. I am truly grateful for Dr. Friedman, Dr. Vélez and everyone else in the Harvard MIRT program for the great mentorship they have provided.

Outside of the hospital, I have also had unforgettable experiences exploring Chile. In Santiago, I have visited the tallest building in South America, several museums, the San Cristóbal and Santa Lucia hills, and Pablo Neruda’s house. It’s a beautiful city with a wide range of possible activities and interesting neighborhoods at every turn. Since it is one of the most urban cities in South America it is easy to get caught up in the city lifestyle, but I have found great places to get away for a while and enjoy the natural scenery for which Chile is known. My favorite has been the Cajón del Maipo, a canyon filled with waterfalls, glaciers, hot springs, and a reservoir called Embalse el Yeso. The reservoir is breathtaking, with snow-capped mountains and turquoise waters. There, I was able to experience exceptional views, meet people from all over South America, and enjoy a day out in the Andes mountains. At one point, some Brazilians on the tour put on Samba music and everyone started to dance.

Two months ago, sitting in my dorm room, I never would have imagined that in a few weeks I would be learning to dance Samba at the foothills of the Andes Mountains. This cultural exchange is what I most love about traveling and living in a different country. Ana and I also went with Dr. Friedman to Valparaíso where we saw another of Pablo Neruda’s houses, took a boat tour through the coast, and experienced the bohemian spirit of the colorful houses and graffiti-filled walls that make up this city of hills. We then visited Viña del Mar, a beach city on the coast, and were lucky enough to sit on the sand and watch the waves on a bright and sunny day. Our next trips are to San Pedro de Atacama, the driest place on Earth, and then south to Torres del Paine National Park in Patagonia. This is what makes Chile so amazing, one day you can be in the driest place on Earth and the next in the snowy mountains of Patagonia. I am shocked that already half of our time in Chile is over, but also excitedly awaiting our next experiences throughout Chile and in the Hospital del Trabajador.

My time with the Harvard MIRT program has pushed me to leave my comfort zone and immerse myself in a new culture. It has already been an unparalleled experience, and I cannot wait for everything else that awaits.
Ana Andrade  
Undergraduate, Harvard College  
MIRT Site: Peru

I cannot believe it has been almost one complete month since we arrived in Peru; the weeks are flying by. I now feel very settled in to our new Peruvian lifestyle. Staying with our host Corali right above our mentor Sixto’s apartment has been invaluable in so many ways. The proximity means we can just head down and ask about logistic regression in person, and it also means we occasionally get invited to the most delicious authentic home cooked dinners. Sixto, Raul and all their family, friends, and work colleagues have been incredibly welcoming.

Shadowing at Dos de Mayo Hospital has been such an encouraging experience as I continue my long journey to medical school. We also got a tour of the Instituto Nacional Materno Perninatal (INMP) thanks to Elena Sanchez and a wonderful social worker named Sylvia. This helped tremendously with our research papers: Oswaldo and I are working on a paper about the association between anxiety and depression amongst pregnant women and the outcomes birth eight and gestational age at delivery. We were able to get a glimpse of the realities that our data came from and our questions were answered directly by Sylvia who had interviewed the subjects.

We had learned that age, especially adolescence, was a significant risk factor for perinatal outcomes including preclampsia, anxiety, depression, and having low birth weight and preterm delivery. The importance of the work we were doing didn’t fully strike me until I witnessed a teenage mother (far younger than myself) begin to cry as she painfully attempted to breastfeed her child. Her despair was disheartening but the way in which Sylvia quickly mobilized to console the mother and to encourage her to try again was so much more inspiring. I am so grateful to be working on something of such real life importance.

We have also been having a lot of fun in Peru. There is another group of Harvard College students in Lima for internships, and I was able to join them on a trip to Lunahuana for some sunshine, rafting and delicious ‘camarones.’ Jae, Oswaldo, Raul, and I took an exciting Sunday trip to Autisha to hike and see the canyon and waterfall before rappelling down a 30m wall! The sights were amazing, and it was nice to get to know a different side of Peru. We are hoping to escape the foggy Lima bubble yet again to go visit the desert and oasis of Ica and Paracas. And of course, I am most excited for our trip to Machu Picchu next month. Our manuscripts are beginning to come together as a final product, and I am continuously so excited for all there is left to see and learn on the remainder of this trip.

“A good head and a good heart are always a formidable combination” – Nelson Mandela
I went to sleep in a warm summer night in California, to awake to a refreshing Peruvian winter, and just like that my first trip to South America began. Growing up in a Spanish-speaking household facilitated my transition from Los Angeles to Lima. Even now more than 4,000 miles away, I feel right at home; listening to my native tongue echoing through the city. Much like Los Angeles, Lima is a big city that has a lot to offer to the avid adventurer like myself. From tasting new foods, keeping busy at the gym, and learning about its history — I feel like an honorary Limeño. Time flies when you’re having fun, so much so, we’re almost halfway into our trip!

I had an opportunity to explore Perú along with staying on top of the workload. So far I have sandboarded the dunes in the desert oasis town of Huacachina, visited pelican-populated Paracas on the coast, and trekked through the Andean highlands to the hidden waterfall in Autisha Canyon. I’m most excited for our last excursion at the end of our stay where Ana, Jae and I will be hiking through the Sacred Valley up to the ancient Incan ruins of Machu Picchu.

None of this would have been possible without the Harvard MIRT program which has opened the door to many students much like myself. I was very nervous when applying as this is my first time conducting research; however, our mentor Dr. Sixto Sanchez is a great teacher. He takes the time to familiarize us with the terminology and statistical software used to describe and analyze data in epidemiological research. He also introduced us to his sister, Ms. Elena Sanchez, and colleague, Ms. Sylvia Tacuri, both of whom have been on this project since the beginning. With their mentorship, we’ve seen firsthand the hard work and time invested when designing a large research project. This brought the goal of the study into a tangible perspective.

Visits to the Hospital Nacional Dos de Mayo and to the Instituto Nacional Materno Perinatal have been the most rewarding. I got the opportunity to interact with medical residents, doctors, department chiefs and, of course, patients on a personal level like never before. As an aspiring physician, it was important to immerse myself in a new health system in order to become a well-rounded, culturally conscientious healthcare provider. The Harvard MIRT program has reaffirmed my passion for medicine and research and opened my eyes towards a career in international health.

Harvard MIRT Peru Fellows having dinner with their mentors in Parque de la Amistad
I can hardly believe half of my time here in Peru has already passed! During the last few weeks, I have learned so much. Our mentor, Dr. Sixto Sanchez, has been our primary source of knowledge—constantly providing guidance and support. Coming into this experience, I was nervous about my project. Dr. Sanchez not only makes himself available to share advice, he also pushes us to learn on our own, which has increased my confidence as I continue to construct my paper. When we shadow Dr. Sanchez at Hospital Nacional Dos de Mayo, I see the way he embodies the type of physician I hope to become. In all areas of the Ob/Gyn department (from the operating room to the prenatal exercise classes), Sixto regularly asks if there are unmet needs—then does his best to provide resources. In addition to demonstrating technical expertise, Dr. Sanchez is genuinely concerned for his patients and colleagues. He frequently checks with us to make sure our questions are answered, and encourages us to avail ourselves of opportunities in the hospital. Before we arrived, Sixto coordinated an English language club for medical personnel who want to practice with native speakers. The group meets twice a week, during which Ana, Oswaldo and I engage attendees in English conversation regarding their specialties and day to day responsibilities.
When we are not working on our projects or shadowing in the hospital, we take full advantage of all that Lima offers. Our host family has been welcoming and kind, especially our host mom, Corali. As we adjust to cooking for ourselves and planning adventures around the city, she is a readily available source of tips for ease and safety. One night last week, we ventured to Circuito Mágico del Agua and saw a spectacular fountain and light show which featured notable Peruvian landmarks and examples of traditional dance and culture. This past Sunday, we took an all-day adventure to el Cañón de Autisha. After a three hour van ride, we arrived in the mountainous countryside, greeted by a cloudless sky and plenty of sunshine. Over the next few hours, we hiked down the canyon to discover a beautiful waterfall. As someone who loves nature, this was an ideal day for me.

Despite initial worries about being prepared for the project, I now see that my anthropology coursework has given me a strong foundation upon which to build. I am even more excited to pursue advanced studies in public health. My specific project (focused on intimate partner violence) reinforces my aspiration to become a health-conscious physician who works to treat patients with compassion and encourage healthier communities. The immersive experience in Lima is helping to refine my conversational Spanish, and our regular shifts at the hospital are increasing my familiarity with Spanish medical jargon. This is invaluable as I aspire to be solidly bilingual. Over the next few weeks, I will continue to make the most of my time in Peru. We have already planned our trip to Cuzco and I look forward to visiting Machu Picchu. Each day, I feel incredibly grateful to have been granted this unique opportunity which is contributing to my growth - both as a scholar and as an active, caring member of the global community.

Jae standing in front of the beautiful waterfall inside Cañón de Autisha (above right). Group photo of the MIRT Peru Fellows (middle). Jae and Ana learning about preeclampsia with Doctor Liberato (bottom).
Every year our MIRT fellows and faculty work on diverse research projects to address the needs of communities of each site. In the Science Corner, we provide synopses of study findings from selected sites. In this issue, we present studies from MIRT 2016-2017. Please visit the MIRT Program website to read the complete list of abstracts.

**Background:** Individually both migraine and post-traumatic stress disorder (PTSD) prevalence estimates are higher among women. However, there is limited data on the association of migraine and PTSD in women during pregnancy. **Methods:** We examined the association between migraine and PTSD among women attending prenatal clinics in Peru. Migraine was characterized using the International Classification of Headache Disorders (ICHD)-III beta criteria. PTSD was assessed using the PTSD Checklist-Civilian Version (PCL-C). Multivariable logistic regression analyses were performed to estimate odds ratios (OR) and 95% confidence intervals (CI) after adjusting for confounders. **Results:** Of the 2922 pregnant women included, 33.5% fulfilled criteria for any migraine (migraine 12.5%; probable migraine 21.0%) and 37.4% fulfilled PTSD criteria. Even when controlling for depression, women with any migraine had almost a 2-fold increased odds of PTSD (OR: 1.97; 95% CI: 1.64-2.37) as compared to women without migraine. Specifically, women with migraine alone (i.e. excluding probable migraine) had a 2.85-fold increased odds of PTSD (95% CI: 2.18-3.74), and women with probable migraine alone had a 1.61-fold increased odds of PTSD (95% CI: 1.30-1.99) as compared to those without migraine, even after controlling for depression. In those women with both migraine and comorbid depression, the odds of PTSD in all migraine categories were even further increased as compared to those women without migraine. **Conclusion:** In a cohort of pregnant women, irrespective of the presence or absence of depression, the odds of PTSD is increased in those with migraine. Our findings suggest the importance of screening for PTSD, specifically in pregnant women with migraine.


Maternal depression, a non-psychotic depressive episode of mild to major severity, is one of the major contributors of pregnancy-related morbidity and mortality. Maternal depression (antepartum or post partum) has been linked to negative health-related behaviours and adverse outcomes, including psychological and developmental disturbances in infants, children, and adolescents. Despite its enormous burden, maternal depression in low-income and middle-income countries remains under-recognised and undertreated. In this Series paper, we systematically review studies that focus on the epidemiology of perinatal depression (i.e., during antepartum and post-partum periods) among women residing in low-income and middle-income countries. We also summarise evidence for the association of perinatal depression with infant and childhood outcomes. This review is intended to summarise findings from the existing literature, identify important knowledge gaps, and set the research agenda for creating new generalisable knowledge pertinent to increasing our understanding of the prevalence, determinants, and infant and childhood health outcomes associated with perinatal depression. This review is also intended to set the stage for subsequent work aimed at reinforcing and accelerating investments toward providing services to manage maternal depression in low-income and middle-income countries.

Elva Arredondo was an undergraduate student at the University of Washington in 1995 when she participated in the MIRT Program in Quito, Ecuador. During her fellowship, Elva worked on a project titled “Water Accessibility and Child Mortality Due to Intestinal Diseases in Urban and Rural Areas of Ecuador.”

After participating in the MIRT program, Elva Arredondo worked on two public health projects that fueled her passion in public health: 1) one that promoted breast cancer screening among black women and 2) a project that aimed to help prevent HIV infection among high risk women. Two years after completing her undergraduate degree, Elva Arredondo was accepted into a clinical psychology program at Duke University where she conducted research on the impact of medical biases on health outcomes of underserved communities and an intervention on the cancer screening practices of Latinas living in a rural region. Upon completing her doctoral training, Dr. Arredondo transitioned into a postdoctoral position and later as a research scientist at San Diego State University (SDSU) where she received external funding to pilot test an intervention promoting physical activity. At SDSU, she was hired as an Assistant Professor and was recently promoted to Professor.

During her tenure at SDSU, she has collaborated with the Mexican National Institute of Public Health (Instituto Nacional de Salud Publica, INSP) to better understand, assess and develop evidence-based strategies and recommendations to effectively prevent obesity in Latino communities. In a separate study, Dr. Arredondo was involved in helping translate and evaluate the Academia da Cidade Program (ACP), an evidence-based, physical activity intervention conducted in Recife, Brazil, for use with Latino communities in the US.

Dr. Arredondo has also been an instructor in a course titled VIIDAI (Viajes Interinstitucional de Integración Docente, Asistencial y de Investigación). VIIDAI is a unique, international public health field experience for students and faculty from San Diego State University, Universidad Autónoma de Baja California, and the University of California San Diego. The mission of the program is to facilitate collaborative projects that integrate the faculty and students from the three participating universities in an effort to both promote health and to provide services to underserved populations while increasing cultural awareness. Much of the research and teaching opportunities that Dr. Arredondo has pursued has been greatly influenced by her experience in the MIRT program. Currently, Dr. Arredondo lives with her loving husband, Chris, and three young daughters (Sofia, Ava, Isabela) in Encinitas California.

“A ship in harbor is safe, but that is not what ships are built for” - John A. Shedd
Alumni Updates

Do you have an update?

We want to highlight your professional accomplishments and personal milestones.

Help us keep you informed and let us know how you’re doing!

Please contact Lauren Friedman via email (hsphmirt@gmail.com).

We would love to hear from you!

MIRT/MHIRT is a national program designed to encourage students to pursue careers in biomedical and behavioral research. This program provides support for undergraduates and graduate students to receive research training in an international setting. MIRT is funded by the National Institute on Minority Health and Health Disparities (NIMHD). The Harvard T. H. Chan School of Public Health MIRT (formerly the University of Washington MIRT) Program was developed in collaboration with Dillard University, Xavier University, and Western Washington University. The program focuses on population-based health research in developing countries and builds on established linkages with academic institutions in Zimbabwe, Vietnam, Thailand, Republic of Georgia, Peru, New Zealand, Mexico, Malaysia, Ethiopia, Chile and Australia.

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The Cerro Alegre neighborhood in Valparaiso has some incredibly colorful murals and houses. Here are Ana and Gabriel—happies because they had just finished the first draft of their manuscript!