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Commentary

The HOLA COVID-19 Study: An International Effort to Determine How COVID-19 Has Impacted Oncology Practices in Latin America

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Countries in Latin America and the Caribbean have become hotspots of the novel coronavirus (COVID-19) pandemic, exacerbating socioeconomic inequalities and overwhelming fragmented health systems. Studies from the United States and Europe have highlighted the disproportionate effects of COVID-19 on patients with cancer and the disruption it has caused on cancer care delivery. The HOLA COVID-19 Study aims to understand how cancer care in Latin American countries has been affected by the COVID-19 pandemic.

Background

Since January of 2020, reports of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), also known as the novel coronavirus causing COVID-19, have emerged in the United States (US) and all around the world. As providers, we continue to see the severe negative impacts that the infamous COVID-19 has caused throughout the US. However, data on the impact of COVID-19 in Latin American countries is limited and continues to slowly emerge. In June 2020, there had been approximately 4 million cases of COVID-19 in Latin America and the Caribbean, with over 27% of the estimated world's COVID-19 deaths occurring in the region (Dong et al., 2020; Johns Hopkins Coronavirus Resource Center, 2020). By September 2020, the number of cases in Latin America continued to increase, with Brazil alone surpassing the 4 million number of COVID-19 cases and with five Latin American countries being among the top ten countries with the highest number of cases worldwide (Johns Hopkins Coronavirus Resource Center, 2020). Unfortunately, Latin American countries also lead in the number of new deaths from COVID-19 worldwide and comprise one of the worst-hit areas in the world. With a wide variation across countries, the two most populous nations in the region, Brazil and Mexico, have seen the highest number of deaths, with Brazil having the second-highest death toll in the world after the US (Dong et al., 2020; Johns Hopkins Coronavirus Resource Center, 2020).

Data from across the US suggest that, when compared to their non-Hispanic white counterparts, ethnic and racial minority populations have higher tendencies of contracting COVID-19 and are at higher risk for severe complications, including death. Particularly, Hispanic/Latinx patients in the US are nearly twice as likely to die from COVID-19 when compared to non-Hispanic whites (Gross et al., 2020). Multiple factors contribute to these disparities in the Hispanic/Latinx population, including barriers to testing and access to specialized care. It is also important to mention that Hispanic/Latinx people represent a large proportion of essential workers in the US and commonly live in crowded housing, factors that place them at higher risk for infection and make the adoption of social distancing measures challenging. When a diagnosis of cancer is added to this equation of disparities in the Hispanic/Latinx population, the COVID-19 mortality rates are only expected to increase. Patients with cancer are most likely to be older, to have multiple comorbidities, and are at high risk of severe COVID-19 infection (Dai et al., 2020; Desai et al., 2020; Saini et al., 2020).

Latin America is referred to as a group of countries in the western hemisphere where romance languages are predominantly spoken. Latin America consists of 20 countries and 14 dependent territories, covering an area that stretches from Mexico to Tierra del Fuego (Chile and Argentina) and includes much of the Caribbean. As of September 23, 2020, the population of Latin America and the Caribbean was estimated at more than 655 million (World Bank, 2020).

The first case of COVID-19 was detected in Latin America on February 26, 2020, in Brazil, and the first death occurred in Argentina on March 7 (Rodriguez-Morales et al., 2020). Since, the number of new cases has significantly increased, leading to Latin America becoming the epicenter of the COVID-19 pandemic in June 2020, as declared by

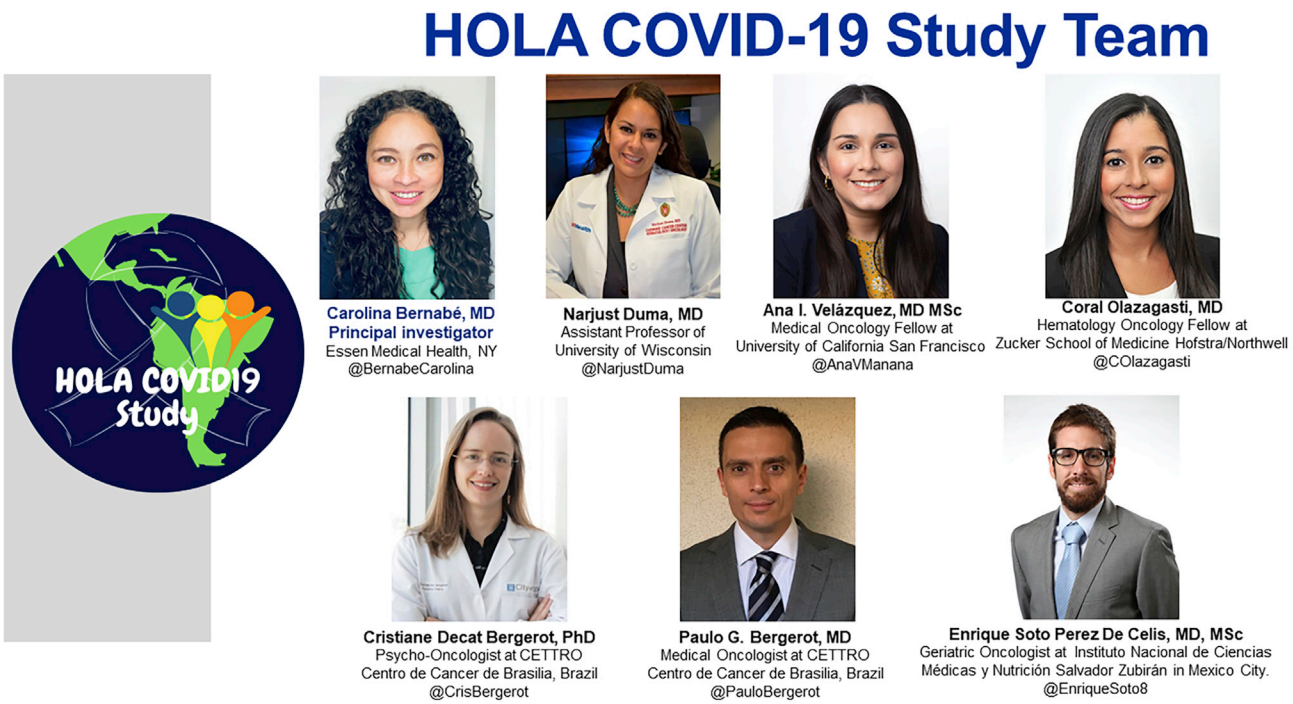

Figure 1. The HOLA COVID-19 Steering Committee

the World Health Organization. In countries like Ecuador, the death toll appears to be higher than the official numbers, due to limited resources at the local level for creating and maintaining reliable reporting databases.

Patients with cancer in Latin America face innumerable barriers, all of which are expected to increase during COVID-19 times. Despite precise data demonstrating the higher impact of COVID-19 on the Hispanic/Latinx population and patients with cancer in the US, the effects of the novel coronavirus in patients with cancer who live in Latin American countries are less well reported or unknown. Understanding how oncology practices in Latin America have adapted during these unprecedented times and the specific challenges experienced by providers caring for patients with cancer is essential to understanding current limitations and deficits in resource-limited healthcare systems and to identifying areas for improvement during this global health crisis. Therefore, we established the *He*matology and *O*ncology in *L*atin *A*merica (HOLA) COVID-19 study team to lead an international cross-sectional study that will evaluate the impact of COVID-19 on the care of patients with cancer in Latin America in order to understand the changes to oncology practices that have been implemented across the region.

Study Team and Recruitment Efforts

The HOLA COVID-19 team is a new collaborative effort composed of Latinx oncology professionals from across the US and Latin America. Dr. Carolina Bernabé is the study team's leader and principal investigator, and Drs. Ana Velázquez Mañana, Coral Olazagasti, Enrique Soto Pérez de Celis, Cristiane Decat Bergerot, Paulo Gustavo Bergerot, and Narjust Duma are members of the study's steering committee (Figure 1).

One of the unique aspects of the HOLA COVID-19 study is that it fosters collaboration among providers from different countries and backgrounds by creating a network of physicians and cancer care specialists from across 20 different countries in Latin America (Figure 2). HOLA COVID-19 integrates a multidisciplinary team including providers and specialists in medical oncology, hematology, surgical oncology, psycho-oncology, and geriatric oncology. The study team identified one or two designated study ambassadors per country who led the recruitment efforts and collaborations within their respective countries. In addition, study ambassadors engaged with national oncology, hematology, surgical oncology, and radiation oncology societies in their countries as part of our recruitment efforts.

The HOLA COVID-19 study is a cross-sectional survey that aims to represent varied perspectives from all oncology subspecialties, including medical oncology, hematology, surgical oncology, gynecologic oncology, and others. The survey was distributed widely across Latin American countries using snowball sampling. Study ambassadors and team members publicized the study and recruited participants via social media platforms (i.e., Twitter, Facebook, Instagram, and LinkedIn), email, national societies, and other local physician communication methods, such as WhatsApp chats. All recruitment efforts and communications were available in Spanish, Portuguese, and English to reach a diverse sample of participants in Latin America. All potential participants were provided with a link to an online questionnaire in their language of preference. The Institutional Review Board at the University of Wisconsin Madison approved the study in July 2020. Participants did not receive an incentive for the completion of the questionnaire, and their participation was completely voluntary.

Figure 2. Geographic Distribution of the HOLA COVID-19 Study Ambassadors Representing 20 Latin American Countries
Shown are study ambassadors per country. Argentina: Raimundo F. Bezares, MD; Federico Losco, MD; Eduardo and Richardet, MD. Brazil: Cristiane Decat Bergerot, PhD; and Paulo Gustavo Bergerot, MD. Bolivia: Ximena J. Bruno, MD. Chile: Christina Adaniel, MD. Colombia: Henry Idrobo, MD; and Ivy L. Riano, MD.

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The HOLA COVID-19 study launched on August 4, 2020, and data collection lasted 4 weeks. At the end of the data collection phase, close to 1,000 cancer care specialists across Latin America had been reached.

Goals of the HOLA COVID-19 Study

The HOLA COVID-19 study provides an opportunity for cancer specialists in Latin America to share their perspectives on how COVID-19 has affected their everyday clinical practice and the care of their patients with cancer. The survey asked participants about their basic demographics and also included descriptive questions about their clinical practice settings. Given the forced and quick transition of cancer care to telemedicine-based services across the world, we also explored if and how telemedicine has been incorporated across Latin American practices. The HOLA COVID-19 study also aims to explore how treatment decisions regarding cancer care have been impacted by the COVID-19 pandemic. As a response to the initial focus on social distancing and to the lack of access to routine cancer care diagnostics and procedures, which resulted from overwhelmed healthcare systems, multiple scientific societies have published best practices to prioritize and adapt cancer care during this global health crisis. Our survey study inquired about providers' treatment decisions, including timing and delays to cancer therapy; changes to cancer-directed drug regimens; and alterations to methods of chemotherapy administration in order to understand how the aforementioned guidelines were being implemented globally. We also explored the impact of COVID-19 on timing and delivery of surgical procedures and radiation treatments, which are key to cancer treatment and in many cases fundamental to the cure of early-stage cancers. Understanding how practices and treatment decisions have changed during the COVID-19 pandemic is imperative for preparing healthcare systems and providers for its long-term effects on cancer care, including the impact on cancer outcomes, the potential stage migration that will result from decreased cancer screening and risk reduction care, and increased barriers to timely access of medical care.

A unique feature of the HOLA COVID-19 study is that we also aim to understand the effects of the pandemic on providers' experience and well-being. Healthcare providers are at increased risk of stress, fatigue, burnout, and emotional exhaustion due to the demanding pace, long hours, time pressures, and emotional intensity of healthcare environments. Social isolation and loneliness have been two of the many detrimental effects COVID-19 has had in the mental health and well-being of the general population. Among healthcare providers, combining these with changes to their practice patterns, increasing work demands, and re-deployment to COVID-19 wards has the potential to further worsen stress and burnout. Our study will describe cancer providers' professional and personal experience during the COVID-19 pandemic as well as the practices they have adopted to cope with the current global health crisis. Importantly, open-ended questions were also included in the survey in order to provide our participants a forum to share their unique experiences and messages with the rest of the world.

Next Steps

The HOLA COVID-19 study has completed data collection, and we are currently in our data analysis stage. Our study will hopefully provide some answers about the impact of the COVID-19 pandemic on the care of patients with cancer in Latin America. The obstacles that COVID-19 has brought to low- and middle-income countries have been different from the ones that European countries and the US have faced while caring for patients with cancer. Therefore, knowledge of the impact of this global health crisis on at-risk healthcare systems will allow for better preparedness and backup plans to sustain the delivery of effective care for vulnerable populations. In addition, the creation of the HOLA COVID-19 study team has allowed for the development of a collaborative network of Latinx cancer care specialists across Latin America and the US. We hope that by building community, this effort will foster future collaborations among Latinx investigators that can highlight the unique opportunities and challenges of cancer care in Latin America.

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DECLARATION OF INTERESTS

An immediate family member of A.I.V. is a former employee of Johnson & Johnson Innovation; A.I.V. also reports stock ownership in Portola Pharmaceuticals, Corbus Pharmaceuticals, and Midatech. N.D. declares consultant/advisory roles with AstraZeneca, Pfizer, and Inivata, Inc.

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