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EDUCATION POLICY | RESEARCH ARTICLE

Cultural competence and global pharmacy commitment in Caribbean pharmacy education: Cuba, Dominican Republic, and Haiti

Alina de las Mercedes Martínez Sánchez^{1*}

Abstract: A lack of cultural competence can negatively affect engagement among students, professionals, and countries worldwide. For the advancement of global health partnerships, pharmacy practice, and education, stakeholders, including pharmacy students, professors, and pharmacists, need to understand the political, cultural, economic, and health conditions affecting populations in all countries involved. This study explores the cultural factors necessary for fostering collaborations, specifically between the pharmacy faculties/schools in Cuba, Haiti, and the Dominican Republic, and their counterparts around the world. First, it provides general information about Caribbean countries and territories, based on bibliographic research. It then presents cultural and health profiles from Cuba, Haiti, and the Dominican Republic, aiming to inspire the establishment, enhancement, and support of alliances between these Caribbean nations and others worldwide.

Subjects: Higher Education; International & Comparative Education; Multicultural Education; Philosophy of Education

Keywords: culture competence; global health; pharmacy education; Cuba; Haiti; Dominican Republic

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1. Introduction

In 2015, the Consortium of Universities for Global Health (CUGH) developed a “global citizen” competency framework for all health professions. However, this framework has not been used to evaluate knowledge outcomes in some health professions (Jogerst et al., 2015). In this context, the globalization of pharmacy education involves providing skills, knowledge, cultural competence, and humility. It also involves adhering to accreditation guidelines in specific or regional countries, establishing infrastructure and academic conditions for postgraduate training and the continued professional development of pharmacists. Additionally, it requires respecting cultural language, traditional views, and religious, political, and value factors that may influence pharmacy education and practice in a country (Alsharif, 2012). Following the Global Perspectives on Pharmaceutical Education and Practice, the WHO International Pharmaceutical Federation (FIP) Task Force on Pharmaceutical Education takes measures to bolster local, national, and regional pharmacy education (Anderson et al., 2010). With the quality assurance of pharmacy education being a global goal, the FIP has published the Nanjing Statements to provide worldwide guidelines, given the wide variation in the state of pharmacy education across different territories (Law et al., 2019). This viewpoint aligns with Parmigiani’s et al. (2022) global competence framework, which emphasizes the need for university students to become interculturally sensitive and globally competent, enabling them to carry out their professional activities in a multicultural context.

According to Haack et al. (2019), while accreditation guidelines for pharmacy curricula are not mandatory in the Caribbean region, the Pan American Health Organization (PAHO) does provide expertise in service procedures and refers to funds available from the FIP. The PAHO also supports policy development in Caribbean countries. With regard to pharmacy education, the Pan American Conference on Pharmaceutical Education (PCFE) advocates cooperation among pharmacy faculties in the Americas and the Caribbean (Infante et al., 2000).

The Caribbean region, situated southeast of North America, east of Central America, and north of South America, consists of a chain of islands bordering the Caribbean Sea. The region’s origin is marked by migration dating back to the 15th century, beginning with the arrival of Caribbean Indians from South America and Spanish Europeans. Subsequently, English, Danish, French, and Portuguese settlers arrived, accompanied by the forced migration of black Africans (García & Núñez, 2022).

This study examines Cuba, Haiti, and the Dominican Republic, chosen for their representation of Caribbean diversity in terms of history, language, and influences from Africa, France, and Spain. Despite their differences in colonial history, healthcare system issues, and reliance on foreign sources, these nations share common economic challenges and bear a significant historical and cultural legacy. This legacy is pertinent to pharmacy students, researchers, and educators interested in promoting global exchange and cooperation. The limited information available on the Global Pharmacy Framework and Cultural Sensitivity Engagement in these countries further justifies their selection. This study also highlights the cultural and linguistic diversity among these Caribbean countries, along with differences in population, education, political stability, and health and education spending. It discusses these factors in the context of national health issues, transnational pharmacy, and health-based engagement, aiming to enhance culturally sensitive collaborations among Caribbean pharmacy faculties.

1.1. Cultural competence

Cultural competence refers to the ability to understand and effectively communicate with individuals from various cultures. This includes four key components: first, awareness of one’s own cultural perspectives; second, attitudes towards different cultures; third, knowledge of various cultural practices; and fourth, cross-cultural skills (O’Connell et al., 2007).

While there are many definitions of culture, Alfred Lang’s (1997) attempts to define culture in a specific way have proven ineffective. Therefore, according to Birukou et al. (2013), culture is a dynamic system of explicit and implicit rules established by groups to ensure their survival. These rules, which pertain to attitudes, values, principles, and behaviors, are shared by a group, but

interpreted differently by each individual within the group. They are passed down through generations and, while relatively stable, they have the potential to change over time.

1.2. Global pharmacy

Global health is defined as “an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide” (Koplan et al., 2009, p. 1993). Here, we focus on global pharmacy, which presents a challenge for pharmacy faculties, as well as other higher education institutions, to effectively prepare pharmacy students. The goal is to help students understand the significance of global perspectives in health and medicine use, develop the skills and aspirations to tackle new tasks, and recognize current career opportunities (Pinto et al., 2021). In the context of global pharmacy, international collaboration among pharmacy faculties and pharmacists facilitates ongoing dialogue. This not only advances pharmacy education, but also promotes global health by learning how to strengthen systems, implement quality development, and foster global pharmacy leadership (Sim et al., 2020).

1.3. Cultural sensitivity

Lutz (2017, p. 4) defines cultural sensitivity as “the effort an individual makes to see beyond the tip of the iceberg and try to understand the aspects of culture that are hidden but make up the base and the majority of the culture.” It stems from the understanding that one’s background, values, and biases can affect our perceptions of others (Kaihlani et al., 2019). Key elements of cultural sensitivity include understanding cultural diversity and others’ values, recognizing the importance of others’ principles and experiences, the ability to operate in a bicultural environment, and the capacity to navigate between multiple cultures and evaluate norms based on each culture’s understanding (Kubokawa & Ottaway, 2009).

2. Methods

The methodology developed for this study is based on Alsharif’s et al. (2019) approach to discussing Cultural Sensitivity and Global Pharmacy Engagement at the international level, using evidence-based practice. A comprehensive literature review was conducted using databases such as Web of Knowledge, Scopus, Medline, and International Pharmaceutical Abstracts. Keywords included Caribbean region, culture, cultural sensitivity, global pharmacy, pharmacist, pharmacy education, global health experiences, education abroad, stereotype, colonialism, healthcare system, and specific nation names. There was no time limit for the search in this initial approach. The websites of pharmacy faculties, as well as WHO, PAHO, World Bank, and FIP were reviewed. We also used resources from the United Nations Children’s Fund (UNICEF), United Nations Development Program (UNDP), Population Reference Bureau (PRB), national institutional information, academic articles, laws, and decrees. The review included sources in English, Spanish, French and Portuguese languages. Studies were excluded if they described culture competence, cultural sensitivity and/or global health in other non-focus areas concerning this paper (Figure 1). The literature review generated a total of 391 references, of which 107 met the inclusion criteria and were extracted for study.

3. Results

3.1. General country information

3.1.1. Cuba

Cuba is an archipelago with a total area of 110,922 km² and consists of one main island and about 1600 keys. Havana serves as its capital, and Spanish is the official language (ONEI, 2021). However, other languages, such as Haitian Creole, Lucumi, Galician, and Corsican, are also spoken, as noted by Bernal (2021) and Villepastour (2020).

Afro-Cuban religions and the Roman Catholic Church are the main religions in Cuba (Crahan, 1979). Cuba boasts a literacy rate of 99.8%, with health education being a mandatory part of the

school curriculum (Akanbi et al., 2013). The country's diverse genetic heritage stems from Spanish colonization, the slave trade, and migrations from Haiti (Fortes-Lima et al., 2018).

The most recent census classified the Cuban population as 65.05% white, 10.08% black, and 23.84% mestizo, predominantly mulatto, with Asians making up just 1.02% (Ustáriz et al., 2011). Owing to its diverse ethnic heritage, Cuba is home to a variety of syncretic religions and cults. Vodún (voodoo), Espiritismo (spiritism), and Santería are primarily rooted in African cultural heritage, but also incorporate Hispanic and Chinese influences (Brown, 2021).

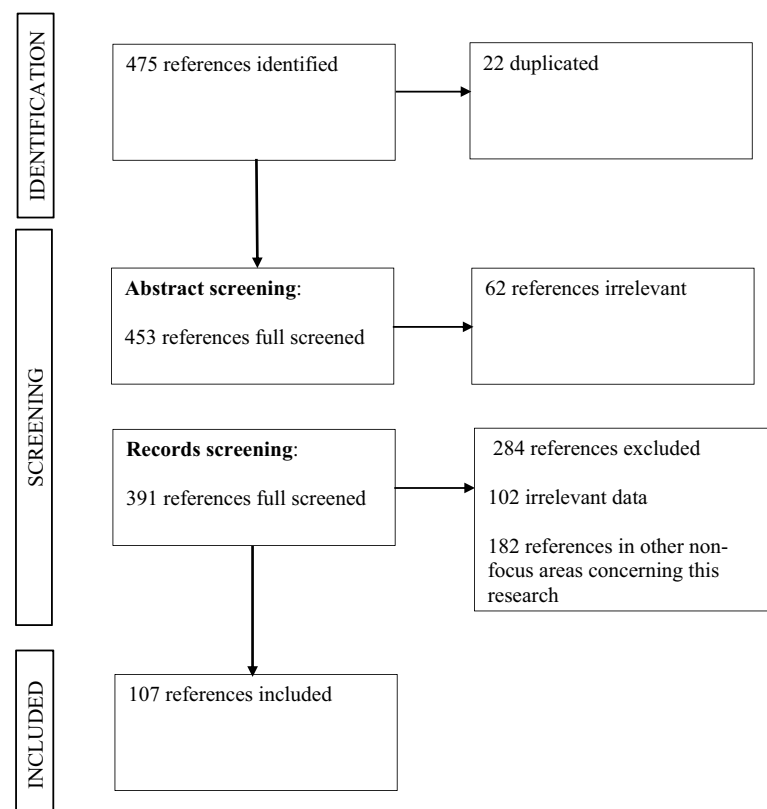
Following the 1959 Cuban Revolution, the country has been defined by the enduring rule of the Communist Party. Currently, Cuba is grappling with a severe economic crisis. The country has expressed interest in promoting multi-destination tourism within the Caribbean, indicating that tourism could become a significant industry. Since 1994, Cuba has used two currencies: the Cuban convertible peso (CUC) and the Cuban national peso (CUP) (González et al., 2020). Data on Cuba's poverty headcount ratio at national poverty lines is not available on The World Bank's site. The 2022 Index of Economic Freedom reveals that Cuba's overall score falls below both regional and global averages, ranking 31st out of 32 countries in the Americas region (The Heritage Foundation 2022, 2022).

Cuba, Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago are all members of The Caribbean Community (CARICOM) (Sandberg et al., 2006).

3.1.2. Haiti

Haiti, a portion of the island known as Hispaniola, came under French administration in 1697 after disputes over the slave trade between Spanish and French traders and planters on the island. The remaining two-thirds of the island make up the Dominican Republic. The colony became France's

Figure 1. Flowchart of review.



wealthiest, accounting for two-thirds of its overseas trade (Pierre et al., 2010). Haiti has a semi-arid tropical climate, with mountains in the east blocking trade winds. It is situated in the hurricane belt and is prone to severe storms, occasional flooding, earthquakes, and periodic droughts. Covering an area of 27,750 km², with 360 km of land boundaries, Haiti has a population of 8,706,497. The population is predominantly young, with about 50% aged between 15 and 64 years. Black people make up 95% of the population, while mulatto and white people constitute 5%. Approximately 2,844,000 residents live in Port-au-Prince, the country's capital. Politically, Haiti is a republic divided into 10 departments: Artibonite, Centre, Grand 'Anse, Nippes, Nord, Nord-Est, Nord-Ouest, Ouest, Sud, Sud-Est (Central Intelligence Agency, 2022).

Religion is fundamental in every aspect of life in Haiti, characterized by a broad range of religious beliefs: 80% Roman Catholic, 16% Protestant (including 10% Baptist, 4% Pentecostal, 1% Adventist, and 1% other), 1% non-religious, and 3% other. Note that approximately half of the population practices Vodou. Given that Catholic and Protestant traditions might be more familiar to non-Haitian readers, this section concentrates on Vodou (Hurbon, 2001).

Haiti is characterized by a pronounced class hierarchy based on education, language, economic status, and culture. Like other Caribbean nations, it has significant social stratification and discrimination, often based on skin color variations (Desrosiers & St Fleurose, 2002). Haitian Creole (Kreyòl), the primary language, is mainly French-based, but also includes words from African and Arawakan dialects, Spanish, and increasingly, English. Only 20% of the population, mainly the urban elite and middle class, can speak, write, and understand French. However, both French and Creole are the official languages of Haiti (DeGraff, 2016).

Multilingualism in Haiti is closely tied to its illiteracy rates. United Nations Educational, Scientific, and Cultural Organization (UNESCO) (2017) reports that Haiti has the world's lowest literacy rate, with less than 50% of adults being literate. By the start of third grade, 49% of students cannot read a single word in Creole. In this context, the "Read to Learn" project shows positive effects on emerging reading skills and oral reading fluency (Kowalski et al., 2022). According to decolonizing theory, low literacy levels and exacerbated postcolonial power dynamics and socioeconomic inequalities stem from colonial language ideologies that favor French over Kreyòl, leading to the marginalization of Kreyòl in Haitian education (Ulysse & Burns, 2021). Haiti is primarily an agricultural country, producing and exporting coffee, mangoes, sugarcane, rice, corn, sorghum, and wood, along with industries such as sugar refining, flour milling, textiles, cement, and light assembly based on imported parts (Pierre et al., 2014). The currency of Haiti is the gourde (HTG).

Haiti's economic and social development continues to be hindered by political uncertainty, escalating violence, and instability. Haiti remains the poorest country in the Caribbean and one of the poorest in the world. According to the United Nations' Human Development Index, Haiti ranked 170 out of 189 countries in 2020 (The World Bank, 2022). The World Food Programme's 2020 Global Report on Food Crises indicates that in rural areas of Haiti, particularly vulnerable households lack agricultural employment opportunities owing to high labor costs and fewer farmers. As a result, these households resort to unconventional income sources, such as migration, petty trade, or selling charcoal. Pokhriyal et al. (2020) notes that from 2000 to 2012, extreme poverty in Haiti decreased from 31% to 24%, while poverty levels remained relatively unchanged in rural areas during the same period. Poverty in Haiti is predominantly a rural phenomenon.

3.1.3. *The Dominican Republic*

The Dominican Republic, sharing its land mass with Haiti, is one of the larger territories in the Caribbean. This should not be confused with the Caribbean Island Commonwealth territory of Dominica. Santo Domingo, the capital city, was established in the 16th century. Given its size, the country boasts a diverse environment, featuring not only the typical white-sand beaches and laid-back cities, but also stunning mountains, desert scrublands, and mangrove lagoons. With excellent weather conditions and plenty to do, it is one of the most popular destinations in the Americas

(Oviedo-García et al., 2019). Politically, the Dominican Republic is divided into 29 provinces and a national district. The rural areas consist of several locations, currently totaling 8,783 across the country. These locations are the smallest territorial units of the Dominican Republic's political-administrative division (Economic Commission for Latin America and the Caribbean ECLAC, 2022).

Agriculture represents 9.5% of national employment in the Dominican Republic, making it the third largest employer, after commercial services and the manufacturing industry. The country is a leading producer of organic cocoa and organic bananas worldwide, with over 30% of organic cocoa and 55% of organic banana production (Organización de las Naciones Unidas para la Agricultura y la Alimentación FAO, 2017). In terms of economic freedom, the Dominican Republic's score surpasses both regional and global averages. In the 2022 index, it scored 63.0 and ranked 16th among 32 countries in the Americas region. The Dominican Republic is a member of the Council of Ministers of Treasury or Finance of Central America (COSEFIN). COSEFIN reports indicate that the economies of Belize and the Dominican Republic grew by 12.5% in cumulative terms (–7.3% in November 2020), while the average growth was 11.2% (–6.1% in November 2020). The Dominican Republic uses the Dominican peso as its currency (Flores, 2022).

The population of the Dominican Republic is approximately 10,738,957 (Morales & Rodríguez, 2022). The majority of the population speaks Spanish (85%), followed by Haitian Creole (2%), Samaná English (1%), and English (0.15%) (Bullock & Toribio, 2014). The country operates under a representative democracy (Stoyan et al., 2016).

The Dominican Republic reported a literacy rate of 95.17% in 2020 (O'Neill, 2023). Over the past decades, the country has seen increased enrollment, reduced dropout rates, and improved access to education for low-income children. However, challenges remain, such as ensuring equity for children in rural areas, strengthening the education system's management capacity, ensuring accountability, and increasing the participation of civil society organizations (Alvarez, 2000). Comparisons between the fourth version of the Comparative and Explanatory Regional Study ERCE 2019 and the Third Comparative and Explanatory Regional Study TERCE 2013 show that the Dominican Republic has made progress in all assessed areas, particularly in third-grade mathematics. However, the country's performance remains below the regional average, with a high proportion of students performing at the lowest level (Tejeda, 2021). Table 1 provides a comparative overview of demographic variables and other general indicators for various countries.

3.2. Healthcare system issues

The Caribbean region grapples with various health, political, social, and economic challenges. Despite these, both the population and governments remain committed to improving health outcomes. Several hurdles must be surmounted by these Caribbean countries. These include the fragility of their economies, which restricts the allocation of more resources to sectors such as health and education, and the population's perception of their health standards and the influence of other cultures and realities on them. These factors contribute to the vulnerability arising from the high transactional costs of maintaining a health sector, coupled with inadequate preparation for frequent natural disasters that often escalate into catastrophes. Despite these challenges and economic constraints, Caribbean countries persist in their efforts to enhance their governmental structures and management to boost their capacity, demonstrating a strong commitment to regional integration (Pan American Health Organization, 2006).

3.2.1. Cuba

Cuba's universal health access is a significant achievement, yet it requires a more efficient analysis of reliable and available sources, research, and application of system results (Gonzalez et al., 2018). Evaluating strengths and weaknesses in health economics, advancing the sciences, and using supplies and original technologies remain challenges, in addition to reinforcing the lessons learned from facing such challenges. Cuba has produced a body of research within the health system related to population

Table 1. Contrast of Demographics and other variables among selected Caribbean countries

	Cuba	Dominican Republic	Haiti
GDP (US\$ at current prices) ^c	107,352.00 ^{a,b}	78,844,702.33 ^{a,b}	14,508,218.02 ^{a,b}
GDP growth (annual %) ^c	-10.9 ^a	-6.7 ^a	-3.3 ^a
Adult literacy rate (latest rate %) ⁿ	99.71	92.47	60.69
Total expenditure on health as % of GDP ^{d,e}	89.3	44.9	11.0
Life expectancy at birth	78.8 ^l	74.1 ^l	64 ^l
Government expenditure on education as a percentage of GDP (%) ⁿ	N/A	4.04277	1.6821
Neonatal mortality rate (per 1000 live births) ^f	2.36	23.43	24.77
Infant mortality rate (probability of dying between birth and age 1 per 1000 live births) ^f	4.08	27.87	46.66
Under-five mortality rate (probability of dying by age 5 per 1000 live births) ^f	5.11	33.76	60.48
Physicians (per 1,000 people)	103 835 ^g	1.5 ⁱ	0.2 ^k
Hospital beds (per 1,000 people)	5.33 ^h	1.6 ^h	0.7 ⁱ
Odontologists (per 10 000)	16.7 ^k	2.31 ^k	0.21 ^k
Odontologist number	20 589 ^g	2431 ^k	237 ^{fk}
Pharmacists (per 10.000)	4.75	1.18 ^{jd}	0.3 ^{mk}
Pharmacist number	5 319 ^g	1263 ^{jeno}	336 ^{bk}
Nurses and midwives (per 1,000 people)	61 736 ^g	1.5 ^{jl}	0.4 ^{cak}
Number of maternal deaths	36 ^m	200 ^{hihjk}	1300 ^{gh}

^aMost Recent Year (2020).

^bMost Recent Value (Millions).

^c<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=ZJ-CU>.

^dData corresponding to year 2019.

^ehttps://apps.who.int/nha/database/country_profile/Index/en.

^fLatest data published at <https://www.who.int/data/>.

^g<http://www.onei.gob.cu/node/16275>.

^h<https://data.worldbank.org/indicator/SH.MED.BEDS.ZS?locations=DO> (World Bank Data. Latest year available 2017).

ⁱ<https://data.worldbank.org/indicator/SH.MED.BEDS.ZS?locations=DO> (World Bank Data. Latest year available 2003).

^j[https://www.who.int/data/gho/data/indicators/indicator-details/GHO/dentists-\(per-10-000-population\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/dentists-(per-10-000-population)) World Health Organization. Latest year available 2019.

^k[https://www.who.int/data/gho/data/indicators/indicator-details/GHO/dentists-\(per-10-000-population\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/dentists-(per-10-000-population)) World Health Organization. Latest year available 2018.

^l<https://ourworldindata.org/grapher/life-expectancy>.

^m<https://data.worldbank.org/indicator/SH.STA.MMRT?locations=CU> (latest year available 2017).

ⁿ<http://data.uis.unesco.org/>.

^oSustainable Development Goals. The UNESCO Institute for Statistics (UIS), available at: <http://data.uis.unesco.org/> (Latest year available, Haiti 2018 and Dominican Republic 2019).

mobility, the increasing prevalence of chronic diseases, rising health costs, and the need to control endemic and recently emerging infectious diseases in the context of climate change (Lage, 2019). The establishment of a university in Cuba dedicated to training physicians for Latin America (ELAM) is potentially the world's largest medical school, with approximately 10,000 undergraduates (Kirk, 2012). The Cuban health structure comprises three levels: the first level cares for 20 to 40 families through family doctor-and-nurse offices; the second level is a community-based polyclinic for every 30,000 to 60,000 residents; and the third level consists of teaching centers for medical, nursing, and allied health sciences students (Keck & Reed, 2012). The public system, funded by the government, provides free inpatient and outpatient medical care, and is primarily used by the entire population.

In line with the Universal Health Strategy principles set forth by the World Health Organization (WHO) and the Pan American Health Organization (PAHO), Cuba has structured its Comprehensive General Medicine (MGI in Spanish) to adhere to these principles (De Bortoli Cassiani, 2014). The focus of its programs is on preventing illnesses and providing prompt treatment. The integration of MGI into local communities, along with its connections to hospitals and the Medicines Institutes Research, enables efficient organization and swift response to emergencies, such as cyclones (Whiteford, 2008). According to Cañete (2017: 1):

Healthcare in Cuba is guided by some fundamental basic principles such as the state and social character of medicine, access, and universality as well as the implementation of the latest scientific and technologic advances consistent with the realities of a low-income country. The Cuban National Health System is highly structured, prevention-oriented, and gives special attention to continuing medical education.

3.2.2. Dominican Republic

The 2010 constitution of the Dominican Republic acknowledges the right to health in Article 61, stating, *"The State must ensure the protection of the health of all persons... as well as provide the means for the prevention and treatment of all illnesses, ensuring access to quality access to quality medicines and providing free medical and hospital assistance to those who free of charge to those who require it"* (Constitución de la República Dominicana, 2010: 27). The Dominican health system consists of both public and private sectors. The public sector's key players include the Ministry of Public Health (Ministerio de Salud Pública (MSP)), the National Health Council (CNSS), the Social Security Treasury (TSS), and the National Health Insurance (SENASA), which is the primary public insurer. The private sector includes Health Risk Administrators (ARS), private health service providers, and non-governmental organizations operating in the health sector. The Ministry of Health (MOH) receives fiscal funds to finance its network of providers serving the uninsured poor population. This population pays a recovery fee after receiving many of the services. Social security funding comes from the Dominican government, which provides a per capita amount to cover affiliates of the subsidized regime (RS), employer contributions, and contributions from employees and private employers. These funds are collected by the Social Security Treasury (TSS), which reports to the National Social Security Council (CNSS). The TSS transfers a total payment to each Health Risk Administrator (ARS), calculated by multiplying the number of its affiliates by a given per capita. The ARSs contract healthcare providers. The main public ARS, the National Health Insurance (SENASA), enrolls the subsidized poor population and pays providers (mainly the MSP network) for agreed-upon services. To provide all the benefits included in the Basic Health Plan for the population segment included in the RS, SENASA also pays private nonprofit providers. SENASA also enrolls a segment of Dominican government employees and private sector workers who choose it as an ARS. Private ARSs, on the other hand, can only enroll those who contribute, and they sell private health insurance plans. Finally, there is a portion of the population that has the financial means to purchase health services in private facilities through out-of-pocket payments (Rathe & Moliné, 2011).

The Dominican government, aiming to cover 90% of the population by 2020, initiated steps to intensify health reform in 2016 (Rathe, 2010). Actions included focusing on certain priority health conditions, restructuring the healthcare model to control costs, reducing or eliminating subsidy

differences between the Contributory and Subsidized Regimes, and increasing public support for the Subsidized Regime to maintain the benefits of the Basic Health Plan. However, monitoring the financial status of all health system entities and further strengthening institutional capacity to conduct financial and technical audits of health providers remain unresolved issues. Currently, the Dominican Republic is taking steps that could lead to achieving comprehensive health coverage, moving towards universal coverage (Rathe, 2018).

3.2.3. Haiti

Haiti is a significantly impoverished country. Only half of the Haitian population has access to healthcare because of poverty and a lack of healthcare professionals, with a ratio of one physician and 1.8 nurses per 10,000 people. Only a quarter of those seriously ill are brought to a health facility (United Nations Development Programme, 2009). The public health sector in Haiti includes the Ministry of Health and Population (MSPP) and a social security institution, Ofatma. The MSPP provides health services to non-salaried individuals, while Ofatma caters to salaried residents. The private sector consists of private insurance agencies and providers. Ofatma provides insurance for work-related accidents, illnesses, and maternity to employees in the formal private and public sectors (Lamaute-Brisson, 2013). Civil society organizations (CSOs) in Haiti, such as Partners in Health and Médecins Sans Frontières, play a crucial role in health service delivery. These organizations operate their own health centers and hospitals, providing care to the underserved population without health insurance. They offer comprehensive primary and secondary care in specific regions of Haiti (Laroche, 2012; Ministère de Santé Publique et de la Population, 2013).

The Haitian health system relies entirely on external financing and support. As Fene et al. (2020) points out, the primary challenge facing the Haitian health system is providing comprehensive health services with financial protection to the entire population.

Of all health facilities, 34% are public, primarily located in the western region, which is home to 37% of the country's total population. The private sector comprises 47% of health facilities, with 30% being for-profit and 17% not-for-profit institutions. The remaining facilities belong to mixed organizations (ICF, 2019).

Haiti demonstrates a low quality in its facility assessments (Nickerson et al., 2015). Numerous care facilities have closed due to a rise in human rights violations and abuses, crime, massacres, and kidnappings, along with restrictions on freedom of expression and press freedom. This situation has been exacerbated by ongoing impunity and worsening food insecurity since 2018 (Hoffmann et al., 2020).

In general, it is challenging to describe pharmaceutical chains or organizations in Haiti. International organizations like FARMAMUNDI are still collaborating with the Haitian NGO Mosctha to help the country recover. A Pharmacy Computerized Inventory Program (PCIP), a web-based system, was developed in both Haitian Creole and English. This program covers all stages of the medication use process, including an inventory of currently stocked medications, and provides real-time graphical recording of medication use. Haitian pharmacy and nursing staff were trained effectively to use this system by three pharmacists from St. Luke's Hospital. As a result, medication consumption improved during the implementation of the PCIP system (Holm et al., 2015).

3.3. Pharmacy education and organizations

In Caribbean countries, as in other Latin American nations, more drugs are available without a prescription. As a result, many patients seek advice from their local pharmacists about self-medication. The use and practice of traditional medicine are prevalent in the Caribbean and coexist with allopathic medicine. Pharmacists often work in relative isolation and are underused, because other professionals do not appreciate their contributions as healthcare providers. However, there are exceptions, such as in Cuba, where pharmacists are more integrated into the healthcare team (Alvarez-Risco & Del-Auila-Arcentales, 2019).

Table 2. School and faculties of pharmacy in Cuba and Dominican Republic

Country	Faculties/Pharmacy Departments	Universities	Current Degrees Offered
Cuba	Institute of Pharmacy and Food	University of Havana ^a	BPharm MPharm: <i>Medicine Technology and Control</i> <i>Experimental Toxicology</i> <i>Clinical Pharmacy</i> <i>Cosmetic Sciences</i> PhD
	Faculty of Chemistry-Pharmacy	Central University “Marta Abreu” of Las Villas ^b	BPharm MPharm <i>Development of Medicines of Natural Origin</i> <i>Pharmaceutical Practice</i>
	Faculty of Natural Sciences/Department of Pharmacy	University of Oriente ^c	BPharm
Dominican Republic	Faculty of Health Sciences/School of Pharmacy ^d Faculty of Health Sciences ^e School of Pharmacy ^f	Autonomous University of Santo Domingo Universidad Central del Este (UCE) Universidad ^{fe} Nacional Pedro Henríquez Ureña	Bachelor of Pharmacy Senior Technician in Pharmacy Bachelor of Pharmacy Bachelor of Pharmacy

^a<https://ifal.uh.cu/>

^b<https://www.uclv.edu.cu/facultades/facultad-de-quimica-farmacia/>

^c<https://www.uo.edu.cu>

^d<https://soft.uasd.edu.do/planesgrado/>

^e<https://www.uce.edu.do/sitios/oferta-academica/farmacia.html>

^f<https://admisiones.unphu.edu.do/oferta-academica/>

Table 3. Dominican Republic higher education system

Stages of studies

University level first stage

Courses usually last four years. Courses in fields such as Engineering, Architecture, Veterinary Science, Dentistry, and Medicine, among others, take between four to six years and lead to a professional title.

University level second stage

Studies following the Bachelor's degree typically last between one and three years, culminating in an MSc degree. The only PhD degrees awarded are professional qualifications in Law, Medicine, Veterinary Medicine, and Dentistry. These studies typically last around six years and result in a PhD degree.

Source: Dominican Republic. In: *International Handbook of Universities 2019*. Palgrave Macmillan, Cham. https://doi.org/10.1057/978-3-319-76971-4_54

Abrons et al. (2019) indicate that there are roughly 10 pharmacy schools in the Caribbean, specifically in Dominica, Jamaica, Puerto Rico, and St. Kitts. Consequently, we focus on programs offering master's or Doctor of Pharmacy (PharmD) degrees in Cuba and the Dominican Republic (de las Mercedes Martínez Sánchez et al., 2022; Sanchez & Bermúdez, 2016) (see Table 2).

The Bachelor of Pharmacy degree (BScPharm), a five-year program, is the primary pharmacy degree offered by universities in Cuba and the Dominican Republic. The curriculum includes basic subjects such as biological, scientific, chemical, mathematical, social, and clinical sciences, along with social and administrative science courses. The teaching methods emphasize a problem-based format, encouraging students to take active responsibility for their learning and adapt to changes and challenges in healthcare. To earn a BScPharm, students must present a thesis based on scientific research relevant to potential career paths such as community, hospital, or industrial pharmacy. Unlike Cuban pharmacy education, Dominican Republic pharmacy education

incorporates interprofessional and interdisciplinary experiences (Andrus et al., 2020; Devine & Wathen, 2021). The curriculum fosters an interest in future interprofessional collaborations. Pharmacy programs focus primarily on community and hospital pharmaceutical care, as well as the food and drug industry (Amariles et al., 2019; Martínez-Sánchez, 2021).

Both countries participated in the 12th Pan American Conference on Pharmaceutical Education (PCPE), which proposed fostering collaboration among pharmacy faculties in the Americas (PHO, 2021). In Cuba, the National Council of Pharmaceutical Education (NCPEA) ensures the quality standards of pharmacy education. This education is characterized by its free, secular, public nature, and it aligns with the political regime (Martínez-Sánchez, 2009). The structure of higher education in the Dominican Republic is outlined in Table 3.

4. General recommendations for culturally sensitive engagement

When interacting with colleagues from Cuba, Haiti, and the Dominican Republic, one should not assume that their knowledge about the Caribbean region is accurate or exhaustive for all islands. Despite linguistic or culinary similarities, Caribbean health norms, references to herbal medicine, pharmacognosy, and matters of spirituality or beliefs must be considered. Some aspects of the Purnell Model of Cultural Competence, such as family roles and organization, nutrition, health rituals, spirituality, cultural heritage, and healthcare practices, are considered (Colin, 2021). Cultural sensitivity requires communication skills to build a pharmacist-patient relationship from an interdisciplinary perspective. Nutritional habits, attitudes towards medicines, and their effect on disease prevalence should be included in the pharmacist's ethnographic and sociocultural training process (Betancourt & Rivero, 2015).

4.1. Influence of spirituality and traditional healing on health: traditional medicine and treatment

On the islands discussed in this paper, religion and folk beliefs shape health practices and perceptions. Roman Catholicism is the predominant religion in these countries, but other religions also exist and significantly affect health beliefs and practices. In Cuba, the health system is a unique characteristic of the Cuban State and is central to all social and political actions (Candace, 2006).

This issue explains the pronounced medicalization and biomedical dominance, both on an individual and collective level, that typify Cuban society. Despite these prevailing norms, Cubans maintain traditional beliefs and healing practices, often intertwined with religious convictions. Cultural health beliefs such as the evil eye (*mal de ojo*) and gastrointestinal pain syndrome (*empacho*) are examples. To treat these conditions, procedures rooted in ethnobotany are commonly performed in Cuba. As a result of a blend of African, Hispanic, and Chinese cultural influences, syncretic religions, such as Vodou (voodoo), Espiritismo (spiritism), and Santería, are practiced in Cuba.

Numerous studies underscore the significance and intricacy of plant mixtures in Dominican traditional medicine, reinforcing existing theories of traditional healing and advocating for the future integration of traditional and allopathic medicine (García & Núñez, 2022; Johnson, 2021; Schumacher, 2010; Vandebroek et al., 2010). Traditional attitudes and practices related to health and spirituality vary across the Caribbean, owing to several factors. The most critical factor is the African regions from which the slave populations originated and the corresponding health and spirituality concepts they brought. For instance, in Haiti, there are three distinct African influences: the Fon peoples, primarily from present-day Benin; the Yoruba peoples from Nigeria; and the Kongo peoples from Angola and Bas-Zaire (Khouri et al., 2012; Muula et al., 2009; World Health Organization, 2010). Auguste and Rasmussen (2019) suggests that health professionals should recognize the Haitian people's willingness to explore various healthcare options and incorporate an understanding of Vodou into their practices. Conversely, Cuban traditional religion is predominantly influenced by Yoruba (Michel et al., 2006).

Moreover, using plants for medicinal purposes is common in these countries. Many island residents obtain plants from markets and botanical stores (Miller, 2000). According to Moret (2008), Cuban residents instinctively search for healing plants in savannas and bushes as part of their cultural health traditions. Today, because of the sale of medicinal plants, people often visit herbalists for easy access. In these places, plants are sold with little knowledge about their harvesting and preservation rules, which, according to the authors, could pose potential issues for people accessing ritual stores and medicinal plants. Recent studies conducted in the Dominican Republic identified 248 medicinal plants used to treat illnesses as a result of their perceived antimicrobial activity (Lozano et al., 2021). In Haiti, there is a widespread belief in both traditional and allopathic medicine, especially concerning maternal and child health. Traditional practices and beliefs significantly affect healthcare delivery (Jean Baptiste et al., 2023).

4.2. Dietary considerations

From a cultural and anthropological standpoint, food signifies more than just nutrition. It plays a pivotal role in shaping societal relationships and individual identities, as food preferences often reflect societal realities and perceptions of self and others (Paponnet-Cantat, 2003). Currently, these islands are experiencing varying degrees of health and nutritional changes, mirroring global trends. A diet high in animal fats and sugars, and low in fruits and vegetables, is linked to an increased incidence of coronary heart disease. The rising prevalence of chronic diseases associated with these dietary changes is straining health systems that are still grappling with malnutrition and infectious diseases (Bermudez & Tucker, 2003). By the early 1980s, coronary heart disease had already become the leading cause of death in Cuba and the Dominican Republic (Armas et al., 2021). The typical Cuban diet is characterized by high consumption of calories, fats, and sugars, with limited intake of whole-grain cereals, fruits, and vegetables. Since the 1960s, food has been sold in limited quantities at government-subsidized prices. Micronutrient deficiencies are common among Cubans, with iron-deficiency anemia affecting 30% to 45% of infants aged 6 to 23 months, 25% to 35% of women of reproductive age, and 24% of pregnant women. Additionally, high alcohol consumption is a notable feature of Cuban social life (Moré et al., 2017).

Food is far from a trivial issue in the Caribbean. These islands rely heavily on imports for staple foods such as rice, beans, and salted cod. The Dominican Republic, however, stands out as a significant food producer in the Caribbean. Unlike Cuba and Haiti, the Dominican Republic demonstrates its ability to produce food and sustain its citizens, taking pride in its farming culture. In contrast, Cuba's recent history under socialism has discouraged both food production and farming culture (Meyer, 2019). As for Haiti, its agricultural sector struggles to meet the country's needs. The FAO reports that while half of Haiti's population works in agriculture, more than half of the population is undernourished (World Bank, 2006).

4.3. Awareness of the family role

Migrating from Haiti to the Dominican Republic is a strategy families employ to improve their collective wellbeing. However, Haitian immigrant families face significant obstacles to integration into Dominican society, owing to widespread rejection, perpetual undocumented status, and pervasive anti-Haitian prejudice. Their presence is often perceived as a problem rather than a contribution (Ariza, 2000). In contrast, in Cuba, families play a significant role in managing daily life. Despite the state's ongoing struggle to provide effective healthcare, the lack of resources has made family involvement crucial. Recently, the health standard has recognized this family-centric approach, positioning social services as a blend of state resources and informal family and community networks (Olstedal et al., 2019). The rise in women's autonomy, from their entry into the workforce, and the acquisition of additional financing sources through consensual unions are factors associated with matrifocality. However, households remain predominantly under female leadership, characterized by a close relationship between the woman, her offspring, and the family group (Safa, 2009). After the dissolution of the Soviet Union in the 1990s, women made up 49.1% of technicians, 67.5% of administrators, and 15.3% of managers (Álvarez-Tabío & Ana, 2017). In recent elections to the National Parliament, Cuban women held 322 out of 605 seats, accounting

for 53.2% of all parliamentarians (Díaz, 2019). Despite these advancements, the establishment of a socialist system did not eliminate the long-standing gender division of household labor in the Cuban family (Pertierra, 2008).

5. Conclusion

Caribbean culture is the product of a diverse and complex process of transculturation. In Cuba, health and education are politically intertwined, a condition that is not typically easy to examine statistically or substantiate systematically. Therefore, it is not possible to fully explore the subject in a single study. When engaging in cross-cultural interactions, visitors and entertainers should remember that everyone is unique, regardless of their origin. This awareness helps to avoid making assumptions and perpetuating stereotypes. The framework provided here can guide potential collaborations with entrepreneurial pharmacists in Cuba, Haiti, and the Dominican Republic. Engaging with these Caribbean islands in a culturally sensitive manner requires individuals and organizations to acknowledge and dismiss their own assumptions and misconceptions before hosting guests. Understanding and respecting the history, cultural norms, and health and healing practices is vital for positive personal and professional interactions. Identifying the needs of partnering institutions, government offices, and individuals is crucial for effective and mutually beneficial exchanges. With regard to languages, historical colonization kingdoms, and political systems, these countries and folk beliefs differ (Taylor et al., 2010). An evaluation of spirituality or beliefs may be considered. Enhancing collaborative partnerships with Caribbean colleagues requires both parties to address any biases or misconceptions they hold about each other. Deep relationships develop when both collaborators learn to appreciate each other's unique influences and identities. This only happens by investing in cultural exploration and collaboration throughout the project.

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