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Review article

The state of the integrative medicine in Latin America: The long road to include complementary, natural, and traditional practices in formal health systems☆

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Abstract

Introduction: Integrative medicine is not an entirely new concept in Latin America. With a deeply rooted tradition in medical practices by ancient indigenous peoples, two milestones are part of the road towards integration. Álvarez Chanca wrote the first records on medicinal plants in Latin America (1493), when accompanying Columbus on his first voyage to the New World. Subsequently, de la Cruz and Badiano wrote a detailed document on autochthonous medicinal plants (Badianus Manuscript, 1552: "First American Pharmacopeia").
Methods: Searching in MEDLINE, LILACS, Google Scholar/Books. MESH: complementary, alternative, traditional, natural, health system, intercultural, ethnomedicine, phytotherapy, and herbs, among others.
Results: It has been estimated that more than 400 million people in Latin America use traditional/natural and/or complementary/alternative medicine (TN-CAM). The yearly expenditure on TN-CAM products of around 3 billion dollars illustrates that these practices have grown exponentially in this region as well. The quantity and quality of scientific studies on TN-CAM, although relatively scarce, has steadily increased. Cuba and Brazil, where formal health systems for different reasons accept inclusion of TN-CAM, are in the forefront of this movement. Considerable advances are also being made in other countries, such as Mexico, Peru, Chile, Argentina and Colombia.
Conclusions: Immediate challenges are how to improve multidisciplinary management, research, professional training, address legal/policy issues and a scientific approach to the extents and limitations of TN-CAM both in conventional health care and in the society as a whole. To ignore or fight the existence of TN-CAM therapies, practiced in a scientific approach, may harm health-care systems. This article belongs to the Special Issue: T & G Health Issue.

Keywords: Integrative medicine; Latin America; Health system; Complementary; Traditional

> "Latin America is a too poor region to allow itself the luxury of not investing in research"

Inspired by a similar statement about Argentina by Bernardo Houssay (1887–1971)—Nobel Prize in Physiology or Medicine 1947.

Introduction

The philosophy that health is based on a balance of the mind, body, and spirit is neither new nor exclusive to integrative medicine. The idea already existed in the times of ancient Greece. Pioneers in the concepts of integrative medicine, such as Aristotle and Hippocrates of Kos, moved from spirituality or religion to experimentation to better understand ailments of the human being [1].

Today, integrative medicine has begun to show to be an important means of new resources in the management of disease and especially in the presence of chronic severe, and sometimes life-threatening, health problems [2]. Currently worldwide different

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health centers have started to develop programs for its study, research, and use.

As such, even though the integrative view of medicine, as a sum of non-conventional, traditional, natural, complementary and/or alternative medicines/practices (from now on called TN-CAM) based on evidence of safety and efficacy, seems quite modern, but probably is not.

Pre-Columbian Latin America had a strong tradition in the use of different types of medical practice related to its ancient cultures.

We may distinguish two historical milestones at the beginning of this long road that health-care systems still have to travel to integrate much of this traditional medical heritage [3].

The first milestone are the notes Diego Álvarez Chanca wrote about certain medicinal plants in America at the end of the XV century, even though they were not his only or even most important aim. Accompanying Christopher Columbus on his second voyage to America, this physician was the first to record data on medicinal plants of the "New World", among many other issues. Although he may have been more motivated by political rather than scientific reasons, his 1493 notes were the initial step for the integration of knowledge between two geographically and culturally very distant civilizations [3,4].

Subsequently, towards the mid XVI century, the first relevant scientific document appeared. A pupil of the Colegio Mayor of Santa Cruz of Tlatelolco (today part of Mexico city), an Indian physician called Martín de la Cruz, passed on his knowledge on autochthonous medicinal plants to a professor from the school, Juan Badiano, who was also a native. Together they wrote the document entitled *Libellus de Medicinalibus Indorum Herbis*, the existence of which was ignored for centuries before it was rediscovered at the Library of the Vatican in 1929, translated into English, and published in America as the Badianus Manuscript. Currently, the "Códice de Medicina Azteca de la Cruz–Badiano" is considered as the "*First American Pharmacopeia*" based on autochthonous knowledge [5].

Nevertheless, these documents do not fully capture the magical-religious concept, the main characteristic of pre-Columbian medicine. People with qualitative and quantitatively important cultural heritages such as the Mayas, Aztecs, and Incas, as well as other somewhat less developed indigenous peoples, such as the Guaranies, Mapuches, Tehuelches, and Selk'nam-Ona, believed in good and bad gods who provided well-being or caused cataclysms, and had faith-healers and witches [6].

European conquerors, mainly the Spanish, met with notable ideological resistance by the native American people when trying to impose themselves. This resistance, sustained along the centuries, prevented the destruction of habits and traditions typical of the Latin-American region [6].

The more recent history of traditional medicine in these societies has developed through local experience of each population or town based on empirical practice and related to the environment. Traditional medicine has lasted due to its easy accessibility and low cost, but typically without systematically being considered in public health-care policies [6].

Currently, in the context of an increased life expectancy, that almost reaches 75 years of age, and growing health-care costs, it has been estimated that more than 400 million people in Latin America use TN-CAM, especially in primary care [8,9].

Recently, a WHO strategy document aims to address new challenges. It requires that responsible professional staff determine their own national situations in relation to traditional and complementary medicine, and then to develop and enforce policies, regulations and guidelines that reflect these realities [10].

The goal of this review is to analyze the history of the integration of natural and traditional practices inside formal health systems, to describe different levels of integration of types of countries, to outline emblematic examples through the analysis of notable experiences and to explore diverse strategies of integration and to understand difficulties, barriers, challenges and perspectives of use of TN-CAM in the context of official health systems in Latin American countries.

Methods

We conducted a search for articles (English and Spanish languages) in MEDLINE (via PubMed), LILACS, Google Scholar and Google Books, with publication dates from January 1960 to May 2014. The search included the following medical subject heading (MESH), independently and in combinations: *CAM, complementary, alternative, traditional, natural, medicine, health system, history, intercultural, cancer, oncology, ethnomedicine, ethnopharmacology, phytotherapy, phytomedicine and herbs/herbal*. We excluded case reports, comments, news, editorials, letters and "grey literature". This search was made for every Latin American country separately or as a region, adding a new MESH: *Latin America*.

We also consulted the following websites: clinicaltrials.gov, worldbank.org, who.int, paho.org and who-umc.org.

Finally we added personal/professional bibliography (including data of several sort of documents, congresses, books and courses), qualified contacts, and experiences of individual and group works.

Results

Biological, socio-political, and cultural context

Latin America is an important cultural region in the world. It is distinguished from other world regions by a set of common cultural traits that include language, religion, social values, and civic institutions deriving principally from the Iberian Peninsula. Spanish and Portuguese are the main languages. Catholicism is practiced by a vast majority of the region's inhabitants. Nevertheless, the region is not entirely culturally monolithic. Indigenous peoples and cultures have influenced national and subnational cultures within regions, affecting language, music, religion, social customs, food habits, and civic institutions [11].

Today, the health-care team lives and works in a multicultural world. Practically in all countries great ethnic, cultural, and