

## ORIGINAL RESEARCH

# Use of Natural and Traditional Medicine in Cuba: Results from the National Health Survey 2018-2019

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### Abstract

**Objective:** To analyze the prevalence of Natural and Traditional Medicine (NTM) use in the last 12 months, according to the report from the National Health Survey (NHS), Cuba 2018-2019.

**Material-Method:** It was an observational, descriptive cross-sectional study that was part of the referred NHS. Socio-demographic characteristics of the survey respondents were collected (living area, gender, age, skin color, marital status, educational level, and occupation). The main variable selected for this study was the prevalence of NTM use by the Cuban population in the previous 12 months.

**Results:** More than one out of five Cubans used NTM therapies in the previous 12 months to the NHS, Cuba 2018-2019, with a higher prevalence of use by people living in rural areas, females, the age group of 65-74 years old, a co-habited marital status, university educational level and those in retirement. Phytotherapy was the most reported NTM therapy.

**Conclusion:** This study analyzed for the first time the prevalence of NTM use by the Cuban population. It demonstrated that more than one out of five Cubans used NTM therapies in the previous 12 months, according to the NHS, Cuba 2018-2019. Cuba The data from the CNHS and the information from this particular study would contribute to strengthening the integration of these treatments with conventional medicine in Cuba.

**Keywords:** Traditional Medicine, Complementary Therapies, Health Survey

### INTRODUCTION

Globally, the landscape for traditional and complementary medicine (T&CM) has been improving consistently. According to the World Health Organization (WHO), 170 nations have acknowledged their use of T&CM, which represents 88% of the WHO Member States.<sup>1</sup> These non-mainstream health approaches from T&CM are sometimes the primary source of treatment for millions of people. They are also the sole recourse for individuals facing barriers to<sup>2, 3</sup>. However, the use of T&CM has been increasing not only in low- and middle-income nations but also in developed countries for various purposes like disease prevention, health promotion, and improving general wellbeing.<sup>4, 5, 6</sup> It seems that this trend has increased during the COVID-19 pandemic, according to reports from countries like Netherlands and India, as well as from the China's Special Administrative Region of Hong-Kong.<sup>5, 7, 8</sup>

Cuba was one of the countries from the Pan-American Health Region (PAHO) that contributed to the last WHO Global Report on T&CM.<sup>1</sup> NTM is the term used in the country for what is internationally called T&CM.<sup>9</sup> NTM is recognized as a medical specialty, with a holistic and integrative approach to health problems using methods of health promotion, disease prevention, diagnosis, treatment and rehabilitation which come from traditional medical systems and other therapeutic modalities that are integrated with each other and with conventional treatments from modern western medicine. Eleven NTM therapies are regulated in Cuba, including acupuncture, phytotherapy, apitherapy, homeopathy, flower therapy, ozone therapy, traditional exercises, medical hydrology, sun-thalassotherapy, natural nutrition, and more recently Ayurveda.<sup>10</sup> The Cuban National Program for the Development

and Generalization of NTM was established in 1997.<sup>11</sup> For more than two decades a successful integration of NTM within the CNHS has been reported.<sup>12, 13</sup> However, there are no previous surveys evaluating the use of NTM from the perspective of the Cuban population. The statistical report of patients' medical care with NTM modalities is guaranteed by the Health Complementary Statistical Information System<sup>14</sup> but the number of nationals using NTM is unknown as long as these statistics could include patients repeating these consultations and treatments within the NHS and the use of NTM for self-care purposes is not considered on these data.

The objective of the present study was to analyze the prevalence of NTM use in the last 12 months as per according to the report from the NHS, Cuba 2018-2019, of which there is no previous history from national population surveys.

## MATERIALS AND METHODS

### Study design

This observational, descriptive cross-sectional study was part of the NHS, Cuba 2018-2019. The objective of the NHS was to identify the prevalence of chronic non-communicable diseases, selected health events and their determinants, as well as the perception of health risks, preventive activities, and use of health services, according to socio-demographic variables.

### Population

This study included the Cuban population aged 6 years and over living in urban and rural areas. A total of 5472472 individuals were included. 14339 of them, aged 15 years old and over (49.3% males, 50.7% females), were interviewed in their homes. Physical and biochemical evaluations of these volunteers were performed by health professionals at local health institutions, complying with the established ethical procedures. The selection was based on a complex sample design, with initial stratification and by conglomerates in stages, with national representation according to sex, age groups, area (urban, rural) and regions (west, center and east). The sampling frame included the population assisted by the Family Doctors and Nurses in 2017. Weights were used according to the aforementioned design and population adjustment at the end of 2018.

### Statistics

The statistical packages SPSS version 21 and SAS

version 9.3 were used to analyze absolute numbers, percentages, arithmetic means, 95% confidence intervals, homogeneity test (chi-square) and trend test for ordinal variables (Cochran-Armitage) significance for both when  $p < 0.05$ .

### Measures

Socio-demographic characteristics of the survey respondents were collected (living area, gender, age, skin color, marital status, educational level and occupation). The main variable selected for this study was the prevalence of NTM use by the Cuban population in the previous 12 months, of which there is no previous history in NHS. Ayurveda was not included as long as it was regulated after finishing the survey by the end of 2019.<sup>15</sup>

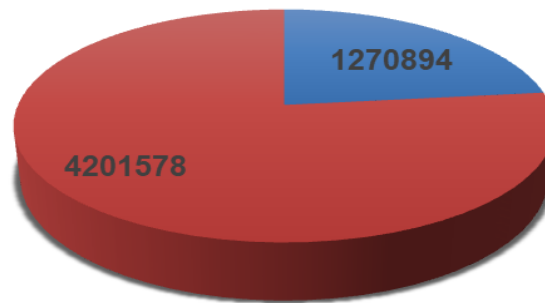
### Ethics

The study was approved by the Ethics Committee of the National Institute of Hygiene, Epidemiology and Microbiology. Written consent to participate in the survey was requested from the respondents, according to the Helsinki Declaration.<sup>16</sup> The data collection instruments did not include personal identification and privacy was guaranteed during the interview.

## RESULTS

From the 5472472 respondents to the NHS, Cuba 2018-2019, 1270894 reported to have used any NTM treatment in the previous 12 months (Graphic 1).

Analysis of the socio-demographic characteristics of these respondents showed a higher prevalence for the use of NTM therapies by those living in rural areas (29.8%) over respondents from urban areas (21.5%) ( $p = 0.005$ ). The general prevalence of NTM use was of 23.2%. Females reported more use of NTM therapies than males (24.4% versus 21.7%). People in the age group of 35-44 years old started to report higher use of NTM (21.0%) with a tendency to increase this use until the age group of 65-74 years old (26.9%) ( $z = 5.3$ ;  $p < 0.001$ ). Anyway, the age group over 75 reported less use of NTM compared to the previous group of 65-74 years old (24.9% versus 26.9%). There were no differences in the use of these treatments according to skin color ( $p = 0.966$ ). Those reporting co-habited tended to use NTM more frequently (25.1%), as well as people with university educational levels (25.7%). Retired respondents reported a higher prevalence of NTM use (26.7) (Table 1).



■ Use of NTM ■ No use of NTM

**Figure 1.** Report of the use/no use of NTM in the previous 12 months by NHS, Cuba 2018-2019 respondents.

**Table 1.** Socio-demographic characteristics of NHS, Cuba 2018-2019 respondents (n=1270894)

Characteristics	No.	%	IC 95%	$\chi^2$ (p)
<b>Living area</b>				
Urban area	929058	21.5	18.3-24.7	59.0 (0.005)
Rural area	341836	29.8	21.7-37.9	
Both areas	1270894	23.2	19.2-27.3	
<b>Gender</b>				
Male	520968	21.7	17.0-26.4	9.2 (0.09)
Female	749926	24.4	20.3-28.5	
<b>Age</b>				
15-24 <sup>a</sup>	39247	13.2	5.6-20.8	58.8 (< 0.001)
25-34 <sup>a</sup>	102898	18.7	12.1-25.2	
35-44 <sup>a</sup>	144950	21.0	16.7-25.3	5.3 (< 0.001)*
45-54 <sup>a</sup>	325836	23.7	20.2-27.2	
55-64 <sup>a</sup>	275727	25.3	20.8-29.8	
65-74 <sup>a</sup>	224023	26.9	21.8-31.9	
Over 75	158213	24.9	20.1-29.7	
<b>Skin color</b>				
White	814964	23.1	18.7-27.5	0.3 (0.966)
Mixed	325532	23.6	17.8-29.4	
Black	130398	23.1	18.3-27.9	
<b>Marital status</b>				
Single	273576	19.9	15.8-24.1	19.9 (0.013)
Married	480173	23.8	19.8-27.8	
Co-habited	296670	25.1	18.9-31.3	
Widowed	110994	24.7	21.3-28.2	
Divorced	109481	24.4	19.1-29.7	
<b>Educational level</b>				
None	34043	24.1	18.6-29.6	15.7 (0.351)
Elementary school	123231	23.0	18.2-27.8	
Junior High School	284659	23.8	18.7-28.8	
Skilled worker	37655	21.7	10.7-32.7	
Technician	191527	20.1	15.2-25.0	
High School	329562	23.2	17.6-28.8	
University	270218	25.7	21.7-29.7	
<b>Occupation</b>				
Government employee	484999	23.2	18.7-27.7	32.0 (0.003)
Mixed Company employee	9093	21.1	12.1-30.2	
Self-employed	130300	20.8	15.3-26.2	
Student	17408	14.1	6.1-22.2	
Housewife	177885	22.6	18.0-27.2	
Retired	346917	26.7	21.8-31.6	
Without/searching labor link	104293	20.6	16.3-24.9	

\* Cochran-Armitage trend test for ordinal variable: z (p-value)

Phytotherapy was the NTM therapy most frequently reported (61.6%), followed by “others” (23.8%) and by acupuncture (16.2%). Medical hydrology (0.7%)

and sun-thalassotherapy (0.3%) were the less reported therapies (Table 2).

**Table 2.** The use of NTM therapies reported by respondents to the NHS, Cuba 2018-2019

NTM therapies	n	%	CI <sub>95%</sub>
Acupuncture	206508	16.2	12.5-20.0
Phytotherapy	782809	61.6	56.6-66.6
Apitherapy	152753	12.0	5.5-18.5
Homeopathy	55082	4.3	2.2-6.4
Flower Therapy	99801	7.9	4.9-10.8
Ozone Therapy	43027	3.4	2.3-4.4
Traditional Therapeutic Exercises	43906	3.5	2.5-4.4
Sun-Thalassotherapy	3669	0.3	0.1-0.5
Medical Hydrology	8578	0.7	0.4-1.0
Natural Nutrition	13979	1.1	0.6-1.6
Others	302015	23.8	18.4-29.2

## DISCUSSION

This study focuses on the first inclusion of NTM as a topic in a NHS in Cuba. It represents the first comprehensive examination of the prevalence of NTM use by the Cuban population as per according to the results from a nationally representative health survey.

According to the findings of this study more than one out of five Cubans use NTM therapies, with a higher prevalence of use among people living in rural areas. This prevalence is lower than in Brazil (45%) or Australia (63.1%), also according to national surveys.<sup>6, 17</sup> The tendency to use more these treatments by females and by those with university educational level is also reported in European countries, where the general prevalence of use is of 25.9%.<sup>18</sup>

Some foreign surveys describe a correlation of T&CM use by patients suffering from chronic non-communicable diseases.<sup>17, 19</sup> This could explain the observed increase of the use of these treatments with age, from the 35-44 years old group until the 65-74 years old group, as well as by retired respondents. Anyway, as long as the reasons for using NTM were not explored it could be considered a limitation of this study.

The most common NTM treatment reported was Phytotherapy, which has been practiced in the island since pre-Hispanic times and somehow it is the real Cuban traditional medicine. The use of medicinal plants by Cuban natives was first referred by Columbus on his first trip to America<sup>20</sup> and it is still used daily all over the nation, even during COVID-19 pandemic.<sup>21</sup> "Others" NTM therapies report followed in frequency the use of Phytotherapy. As long as the identification of these treatments was not registered and this information is missing, it is not possible to know what respondents meant by "others". It is a limitation of the study as long as it cannot be determined if there are confusions about NTM therapies or if people were using non-

regulated therapies on their own.

Acupuncture was the third most frequent treatment reported and there are different references to its use in Cuba for the treatment of pain, hypertension and other acute conditions, as well as in odontology, sport medicine and for analgesic purposes during surgeries. It is practice in the three levels of the CNHS, with a broader use in primary health care settings.<sup>9</sup> WHO reported in 2019 that Acupuncture was formally acknowledged by Member States as the most common form of T&CM used by their populations (113 Member States), closely followed by Phytotherapy (110 Member States).<sup>1</sup> In Cuba, with a most representative use of Phytotherapy, these two therapies are also the most commonly used because as it was mentioned it cannot be determined what respondents meant by "others".

It is also a limitation of this study the impossibility to know whether NTM therapies were prescribed by a physician or if they were self-administered. The self-reported nature of the survey, which exposes the data to the risk of bias and is related to some of the previous limitations, could be considered as the main weakness of this study. However, its most important impact is that it analyzes for the first time data about the prevalence of NTM use as per as the results from a NHS.

## CONCLUSION

This study analyzed for the first time the prevalence of NTM use by the Cuban population. It demonstrated that more than one out of five Cubans used NTM therapies in the previous 12 months to the NHS, Cuba 2018-2019. The data from the CNHS and the information from this particular study would contribute to strengthening the integration of these treatments with conventional medicine in Cuba.

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