

Health problems of tourists who visited the Jardinesdel Rey tourist destination in 2019

Authors:

Dr C. Julio Jesús Guirola de la Parra ^a, Dr. Roberto Jiménez Madrigal ^b, Dr. Carlos Mario González López ^c, Lic. Elisa Quintero Alfonso ^d

^aSpecialist in Intensive Medicine and Emergencies, Master in Medical Emergencies. International Clinic of Cayo Coco, Ciego de Ávila, Cuba. guiroladelaparra@gmail.com, jguirola@infomed.sld.cu Postal address: Republica 529-A between 6 and 7 Vista Alegre, Ciego de Ávila, Cuba. CP 65300 (Corresponding author)

^bSpecialist in General Medicine, Master in Medical Emergencies, International Clinic of Cayo Coco, Ciego de Ávila, Cuba.

^cSpecialist in General Medicine, International Clinic of Cayo Coco, Ciego de Ávila, Cuba.

^dLic. innursing, nurse specialist in Medical Emergencies, International Clinic of Cayo Coco, Ciego de Ávila, Cuba.

Correspondence Author:

Dr C. Julio Jesús Guirola de la Parra ^a

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ABSTRACT:

Background: The annual number of international tourists rises each year and with it the number of travelers who have a health problem, which increases the need for health services, a phenomenon of which the Jardinesdel Rey tourist center is not alien. **Method:** A longitudinal descriptive study was carried out retrospectively, with the aim of knowing the behavior of health problems presented by tourists who visited this tourist destination during the year 2019. Findings. 1.2% of the tourists who visited the pole were treated at hotel medical offices and 0.2% at the clinic. In hotel clinics the main causes were digestive, respiratory and dermatological conditions, in the clinic they were trauma, digestive and respiratory diseases. Trauma was more frequent in the elderly and tourists with high alcohol consumption, children had more respiratory disorders, digestive disorders were related to alcohol consumption and extreme ages of life, and people with chronic diseases had more cardiovascular conditions and metabolic. 25.8% of those treated at the clinic required admission under observation, 80% of the patients resolved their health problem in the clinic and 20% needed their transfer to the hospital. **Conclusions:** Trauma, respiratory conditions and digestive disorders were the main health problems that tourists presented at the Jardinesdel Rey pole and there was a close relationship between their occurrence and risk factors.

Keywords: Travel, Travelers' health, Travelers' behavior, Risk factors.

INTRODUCTION:

The annual number of international tourists increases every year, the World Tourism Organization estimates that it may reach 1.8 billion in 2030¹. The increase in international travelers is accompanied by an increase in the needs of health services, creating an indissoluble combination to which should be paid special attention. At the 49th executive council of the Pan American Health Organization, the need to execute more structured programs to care for the health of tourists was raised, which is why it is necessary to review the health care regulations in force for the tourism trade, both by the private and public sectors². The deterioration in the health of travelers constitutes a risk for the entire tourism industry. Someone who becomes ill during a vacation visit to another country may not return. In his place of origin he will be a discrediting agent and with

his opinions, he will alienate potential tourists. Such circumstance is aggravated when the condition is not properly attended to and in extreme cases causes an avoidable death. The special nature of tourists' behavior contributes to certain health problems. Frequent changes in environment and spaces make them susceptible to certain health risks, interruption of normal dietary habits causes gastrointestinal disorders, behave adventurously and risky, excessive consumption of alcohol, sex, drug abuse and sports activities Dangerous increases your vulnerability to illness and accidents. The increase in tourists belonging to the elderly and people with chronic non-communicable diseases increases the possibility of health problems during travel, with a greater need to visit health services in destination countries. In this segment of the population, medical evaluation prior to travel is particularly

important, as well as putting into practice the recommendations aimed at avoiding decompensation of preexisting diseases and preventing risks for other conditions³.

It is estimated that for every 100,000 travelers to the tropics: 50,000 will have a health problem, 8,000 will be sick enough to consult a doctor, 5,000 will spend some day of the trip bedridden by illness, 1,100 will suffer some degree of disability during or after the trip, 300 will be hospitalized during the trip or on the return, 50 will be evacuated or repatriated and one will die⁴. The number of tourists who visit the Jardines del Rey tourist pole, located on the north coast of Cuba, increases every year, to face the needs of attention to health problems that may arise, they have a network of hotel medical offices and an International Clinic. This study aimed to know the behavior of health problems presented by tourists who visited the pole during the year 2019. To deepen the knowledge of the main risk factors, most frequent conditions and place in the system where the problem was solved, They will provide the necessary information to achieve a more efficient tourist health care system.

METHODS:

A retrospective longitudinal descriptive study was carried out, with the aim of knowing the behavior of health problems presented by tourists who visited the Jardines del Rey tourist center during 2019. This destination dedicated to sun and beach activities is located on the north coast of Cuba, it has medical offices located in each hotel, with healthcare coverage 24 hours a day. They work with doctors who specialize in Comprehensive General Medicines during daylight hours and graduates in nursing 24 hours a day. In some hotels, the presence of a 24-hour medical specialist is

guaranteed, those that are geographically distributed, provide medical assistance to those without doctors at night. Hotel offices are the first link in the assistance to tourists, where they treat non-serious medical problems and provide the first measures to patients with signs of severity. In these latter cases, the doctors and nurses establish the necessary coordination for their safe transfer to the International Clinic where patient care continues. The International Clinic has a clinical laboratory, radiology, ultrasound service and an intensive area with the human and material resources necessary to attend to medical emergencies and urgencies. In the clinic, diagnoses are required, patients are observed and stabilized. Those who resolve their clinical situation in less than six hours return with treatment to their hotels, those who require hospitalizations are transferred to the Morón general hospital. To carry out this work, a model was completed using the data obtained from the patient records seen in the clinics and from the medical records of those seen at the International Clinic. Said information was emptied and processed with the SPSS statistical package, version 20. The results were presented in frequency and percentage tables.

RESULTS:

In 2019 they visited the tourist center, which includes Cayo Coco and Guillermo, 375,200 foreigners, 4,171 (1.2%) were treated at hotel medical offices for any health problem and 585 (0.2%) required the services of the International Clinic of Cayo Coco. Indians represented 31.3%, followed by Canadians with 24.8% and North Americans with 11.1%, Table 1. Table 1. Foreigners attended at the clinic by country, year 2019.

Country	Nº	%
Canada	145	24,8
India	183	31,3
Argentina	37	6,3
Russia	35	6,0
England	29	5,0
Spain	27	4,6
Dominicana R.	17	2,9
USA	65	11,1
Others	47	8,0
Total	585	100,0

Table 2 shows the relationship between the presence of risk factors and the appearance of the diseases that motivated the attention of tourists in the clinic. 13.1% of the patients with respiratory disorders were children, in 28.8% of the trauma alcoholism was present and in 26.4% the elderly, more than 50% of the patients with cardiovascular and metabolic disorders had chronic diseases as a background. 70% of neurological conditions occurred in the elderly or with chronic diseases.

Table 2. Distribution of patients according to diagnosis and risk factors.

Diagnosis	Risk factors													
	Old age		Alcoholism		Children		Pregnancy		Chronic disease		No risks		Total	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%		
D* . Respiratory	10	10,9	0	0	12	13,1	0	0	8	0,9	61	67,1	91	100
D. Digestive	10	10,4	5	5,2	5	5,2	0	0	4	4,2	72	75,0	96	100
Traumas	43	26,4	47	28,8	7	4,3	0	0	0	0	66	40,5	163	100
D. Ostiomyoarticulares	1	2,1	0	0	0	0	0	0	0	0	46	97,9	47	100
D. Cardiovasculars	2	6,2	0	0	0	0	0	0	17	53,2	13	40,6	32	100
D. Urological	1	3,8	0	0	0	0	0	0	0	0	25	96,2	26	100
D. Dermatological	1	2,3	0	0	1	2,3	0	0	0	0	41	95,4	43	100
D. Gynecological	0	0	0	0	0	0	2	50,0	0	0	2	50,0	4	100
D. Ophthalmological	0	0	0	0	0	0	0	0	0	0	10	100	10	100
D. Neurological	3	30,0	0	0	0	0	0	0	4	40,0	3	30,0	10	100
D. metabolic	0	0	0	0	0	0	0	0	9	75,0	3	25,0	12	100
Others	2	3,9	2	3,9	4	7,9	2	3,9	2	3,9	39	76,5	51	100
Total	73	12,5	54	9,3	29	4,9	4	0,6	44	7,5	381	65,2	585	100

D* : Disorders

Table 3 shows that trauma, followed by digestive and respiratory conditions, were the main causes of tourist attendance at the clinic. Injuries were also the most frequent diagnoses by country, with the exception of North American tourists, who had more respiratory conditions and digestive disorders.

Table 3. Distribution of patients according to diagnosis and country of origin.

Diagnosis	Canada	India	Argentina	Russia	England	Spain	Dominicana	USA	Others	Total
	R.									
D* . Respiratory	17	36	6	3	0	2	3	21	3	91
D. Digestive	25	13	6	5	9	6	4	17	10	96
Traumas	71	18	14	15	15	5	4	7	13	163
D. Ostiomyoarticulares	1	37	0	1	1	2	1	3	0	47
D. Cardiovasculars	9	7	1	4	0	1	4	2	3	32
D. Urological	2	9	3	2	1	1	0	4	1	26
D. Dermatological	2	33	0	1	0	2	0	5	0	43
D. Gynecological	1	0	0	0	0	2	0	0	0	4
D. Ophthalmological	2	6	1	0	0	0	0	1	0	10
D. Neurological	5	2	1	1	1	0	0	0	0	10
D. metabolic	1	1	2	0	1	3	0	1	1	12
Others	10	20	3	3	2	3	1	4	5	51
Total	145	183	37	35	29	27	17	65	47	585

D*:Disorders

Digestive disorders, frequent in tourists, represented the second cause of care in the clinic with 96 patients. Of these, 50% included a wide group of diseases such as gastritis, biliary colic, liver disease decompensations, etc., 38.5% were acute diarrheal diseases and 11.5% acute abdominal syndromes such as appendicitis, pancreatitis, and intestinal perforations. (Table 4).

Table 4. Patients with digestive disorders treated at the clinic.

Digestive disorders	No	%
Others	48	50,0
Acute diarrheal disease	37	38,5
Acute abdomen	11	11,5
Total	96	100,0

Table 5 shows that 25.8% of the patients seen in the clinic required admission under observation, the predominant diagnoses being digestive disorders, followed by cardiovascular disorders and trauma. This table also shows that 468 (80%) of the patients resolved their health problem in the clinic and that only 20% needed their transfer to the hospital for diagnosis and treatment.

Table V. Distribution of patients according to diagnoses and need for hospital admission and hospital referral.

Diagnosis	Admitted to the clinic			Referred to hospital		
	Yes	No	Total	Yes	No	total
D*. Respiratory	10	81	91	8	83	91
D. Digestive	58	38	94	19	77	96
Traumas	23	140	163	55	108	163
D. Ostiomyoarticulares	0	47	47	2	45	47
D. Cardiovasculars	24	8	32	10	22	32
D. Urological	8	18	26	0	26	26
D. Dermatological	0	43	43	0	43	43
D. Gynecological	1	3	4	0	4	4
D. Ophthalmological	0	10	10	3	7	10
D. Neurological	10	0	10	10	0	10
D. metabolic	10	2	12	3	9	12
Others	7	44	51	7	44	51
Total	151(25,8%)	434(74,2%)	585	117(20,0%)	468(80,0%)	585

D*:Disorders

DISCUSSION:

In the Jardines del Rey tourist pole, no epidemiological studies have been carried out on the number of tourists who present any health problem during their trip, but in 2019 the number of visitors who requested medical services in hotel offices and in the clinic was 1.2% of the total, a figure less than 10% reflected by international authors^{5,6}. The presence of medical coverage in all hotels guarantees the accessibility of tourists to the health system, so the lower figure than reported should be related to a low incidence of health problems or that these were not relevant to visit a doctor. The largest number of patients corresponded to the Indians, who constitute a population group that works in the pole, but they have been living for less than a year, live in hotel facilities and are cared for in the clinic, which is why

they were included in the study. They were followed by Canadians and Americans, which corresponds to the main tourist sending countries to the destination. The patients seen at the clinic had similar diagnoses independent of the country of origin. At the hotel consulting rooms, the main causes of consultation were digestive, respiratory and dermatological problems, which coincides with what was reported by other authors^{7,8}. In the clinic the main cause of consultation of tourists was trauma, followed by digestive and respiratory conditions, similar results were reported in a study carried out in the emergency department of a hospital where tourists are treated in the city of Ontario in Canada⁹. The risk factors for a tourist to get sick are numerous, but most of the authors recognize as the most important: age, physical conditions, time of year,

country of visit, duration of the trip, purpose of the trip, type of accommodation and food hygiene, traveler behavior, previous health and pregnancy. Of the 585 tourists attended at the clinic, 204 had some of the risk factors considered, the condition of the elderly, alcohol intake, previous illnesses and childhood were the most frequent. Trauma was the main cause of care for tourists in the clinic and was related to two risk factors, belonging to the elderly and alcoholism. This coincides with that reported by other authors^{10,11,12,13}. In 26.6% of the injuries occurred in the elderly, in this age group upper limb trauma (cole and humerus fractures) and hip fractures in their different variants were the predominant ones. The main cause of trauma in the elderly was the fall of their feet. The motor limitations of the elderly, combined with structural characteristics of the spaces and premises of hotels where irregularities are frequent and physical barriers favor falls. In 28.8% it was related to alcohol consumption in people between 18 and 60 years old, in this group the main injuries were ankle trauma (sprain and fractures) and skull injuries with or without scalp injury. The presence of chronic diseases such as HT, coronary conditions, and diabetes mellitus were the risk factors for the appearance of acute cardiovascular and metabolic disorders. Variations in lifestyles and dietary habits favored the onset of hypertensive crisis, angina pectoris and acute diabetic decompensation. Tourists of pediatric age presented more frequent respiratory conditions. Digestive diseases were the second cause of consultation in the clinic. Several diagnoses are included in this group, such as: acute gastritis, peptic ulcers, acute abdominal syndromes, bile duct conditions, decompensated liver disease and traveler's diarrhea. Acute gastritis accompanied by epigastric pain, nausea, vomiting, and dyspeptic disorders secondary to dietary violations and alcohol consumption had a high incidence and required parenteral treatment and admission to observations. A total of 11 patients went to the Morón hospital to receive emergency surgery for appendicitis, intestinal occlusion, perforated ulcers, pancreatitis, and acute cholecystitis. These results coincide with that reported by other authors^{5,11}. Epidemiological studies and meta-analyzes have revealed the affectation of tourists by a wide variety of infectious diseases, without differences in relation to tourist destinations (developing or developed countries), which include gastrointestinal, respiratory and dermatological infections^{7,13}. Among gastrointestinal disorders, the most recognized and studied is traveler's diarrhea, the incidence of which varies between 10 and 70% depending on the tourist destination, the individual behavior of the travelers and other factors.^{7,13,14,15} The most frequent cause of traveler's diarrhea is food and water contamination and

dietary violations. In the first case, bacteria, such as the different strains of Echericha coli, Shiguella and Salmonella, followed by viral and parasitic causes are the etiological causes¹³. In addition to diarrhea, patients may have colic-type abdominal pain, vomiting, fever, and general condition. In some cases, the symptoms are severe and they present hydro-electrolyte disorders that motivate patient care in a hospital center and the need for parenteral fluid and electrolyte replacement. In the Jardinesdel Rey tourist pole, in 2019 there were no outbreaks of diarrhea and although there are no epidemiological studies on its incidence, it was one of the main causes of tourists visiting hotel offices, but only 35 patients were referred to the clinic for presenting more severe symptoms. All were treated for several hours in the clinic and returned to their hotels with medical treatment and dietary recommendations, with no hospital admissions required. Most studies associate morbidity in tourists with infectious diseases, but given the characteristics that a significant percentage of tourists who visit the Jardinesdel Rey tourist center are elderly, with chronic non-communicable diseases, the number of patients treated with decompensations of ostiomyoarticular, cardiovascular and metabolic problems was not negligible in this study. The increase in elderly people with chronic diseases worldwide has motivated them to request a medical consultation before traveling to assess their fitness to travel and to provide health advice^{16,17}. The International Clinic of Cayo Coco has the mission of attending to medical emergencies, depending on their characteristics and severity, and complying with established protocols, these can be resolved at the clinic or stabilized and transferred to the Morón hospital. In 2019, of the 585 tourists attended, 80% resolved their health problem at the clinic. 25.8% required admission under observation for a period of one to six hours. Only 20% of the patients were transferred to the hospital, in this group the first cause was trauma with bone fractures, who by protocol should be evaluated by an orthopedic and trauma specialist. These data reflect the guarantee that tourists have for the care of health problems during their visit to the tourist destination, the possibility that 80% solve it without having to leave the pole means a reduction in the discomforts dependent on transfers to other hospital centers and the loss of time dedicate recreation and rest activities, fundamental objectives of their trips. International studies indicate that between 0.7 and 1% of tourists require hospital admission for health problems^{5,6}. During the year 2019 of the total tourists (375,200) who visited the 151 pole (0.04%) required hospital admission, which represents a percentage lower than that reflected in the indicated reports. The presence of medical services in hotels and a clinic in a tourist pole favors the early attention of tourists who acquire a health

problem, and with timely attention, complications and the need for hospital admission are avoided. Of the 117 patients referred to the hospital, 64 had to be admitted, the rest had their health problems solved and they returned to their hotel. Death during international travel concerns various levels of the travel industry, in addition to the immediate effects on the traveler, his family and friends. Travel-related mortality has important implications for pre-travel health advisers and healthcare providers¹⁸. The main causes of mortality during a trip are accidents, cardiovascular diseases and communicable diseases¹⁹. A descriptive study of the morbidity and mortality of travelers seeking care at one of the 22 U.S. clinics participating in the GeoSentinel Global Surveillance Network from January 2000 to December 2012, which included 9,624 people reported three deaths²⁰.

At the Jardinesdel Rey tourist center, five tourists died in the period studied, four were people over 65 years of age and had a history of chronic ischemic coronary heart disease and the fifth died from drowning in salt water. The number of tourists who visited the Jardinesdel Rey tourist pole increased during 2019 and with them the number of travelers who requested medical assistance. Trauma, respiratory conditions and digestive disorders were the main health problems presented by tourists treated at the international clinic in Cayo Coco and there was a close relationship between their occurrence and risk factors.

Declaration of Interests:

The authors state that they have no conflicts of interest.

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