Original article

Characteristics of the assistance to pilgrims in the National Sanctuary of Our Lady of Aparecida, São Paulo, Brazil, 2011-2014*

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Abstract

Objective: to describe the characteristics of the health assistance for pilgrims visiting the National Sanctuary of Our Lady of Aparecida and to investigate health care strategies in periods of peak of religious tourism. **Methods**: a descriptive study using outpatient medical records from 2011 to 2014, for a detailed analysis for the month of October 2014 and the operational documents for health care in periods of mass events in the medical clinic of the Sanctuary. **Results**: 95,011 people were assisted in the period, 2,266 in October 2014; the higher demand for assistance was from elderly individuals (33%), women (59%), and people from the Brazilian Southeast region (79%); there were no operational documents for specific actions for this period. **Conclusion**: the large number of visitors, associated with the frequency of mass events and the absence of an operating plan, may pose a serious public health scenario for that region.

Keywords: Health Planning; Health Services Accessibility; Tourism; Religion; Epidemiology, Descriptive.

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Introduction

Hosting mass events brings many challenges related to agglomeration of people, demanding greater supply and organization of health services.[1-2] This is, however, a good opportunity for the economic and social development, as well as an opportunity to revitalize and modernize public administration areas, infrastructure and urban planning.[3] Brazil has hosted mega-events, characterized as 'mass gatherings or mass events', such as the United Nations Conference on Sustainable Development (Rio + 20) in 2012, the Confederations Cup in Brazil and the World Youth Day, held in 2013, the World Cup of Football in 2014, and the Olympic and Paralympic Games in 2016.

According to the World Health Organization (WHO), these celebrations can be defined as 'events with the participation of a sufficient number of people (as few as a thousand, or exceeding 25 thousand persons), which entails the need to extend the capabilities of planning and response of the community, State or nation, including Public Health resources'.[4]

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In some places large unscheduled movements of tourists occur, which can become great scenarios for Public Health emergencies in Brazil. In the case of places of pilgrimage, named as 'Religious Tourism', in which pilgrims travel through the mysteries of faith, or of devotion to a saint. In practice, this kind of tourism consists of tours to places considered sacred, congresses and seminars linked to evangelization, religious festivals celebrated periodically, shows and theatrical representations of religious nature.[5]

In the state of São Paulo, in the city of Aparecida, considered the capital of religious tourism in Brazil, it is located the biggest Marian pilgrimage center, and the second largest Catholic Church in the world: the National Shrine of Our Lady of Aparecida. While in most sanctuaries there's only big movement on the occasion of the novena and annual feast of the Patron Saint, in Aparecida-SP, the search takes place during the whole year; there are few weekends in which the quantity of pilgrims are less than 40 thousand, often they surpass 80 thousand people, revealing the Sanctuary as a permanent centre of mass gatherings. The pilgrimage to Aparecida-SP occurs since 1717 (the discovery of the saint) until the present day, and is growing, as shown by the increase of 6 million to 12 million of pilgrims between 1998 and 2014.[6]

In view of the implications and challenges for Public Health that mass events may represent, the Department of Epidemic and Pandemic Alert and Response of the WHO reports having received numerous requests from various countries for guidance and technical assistance to host an event, in recent decades. In 2008, this organ has produced the document 'Communicable disease alert and response for mass gatherings' with the purpose of standardizing the planning of these actions. For the preparations of the mass gatherings, the document considers the analysis of three factors: Risk assessment (What could happen?); Surveillance (How and when it happens?); and Response (What should we do when this happens?).[4]

The Ministry of Health, through the ordinance No. 1,139, from the 10th of June, 2013, also defined the responsibilities of management and has established national guidelines for the planning, implementation and evaluation of the actions of surveillance and health care in mass events, in order to prevent and mitigate the health risks to which it is exposed the population involved in this type of event, including promotion, monitoring and protection, and health care.[7]

The aim of the present study was to describe the characteristics of the health assistance for pilgrims visiting the National Shrine of Our Lady of Aparecida and investigate health care strategies in periods of great religious tourist drive.

Methods

This is a descriptive study, which used as data source the service records of the medical clinic of the National Shrine of Our Lady of Aparecida-SP, between 2011 and 2014.

The tourism is the main source of the city's resources, moving the local economy by generating jobs and income.

Resident population of the municipality is of 36,184 inhabitants;[8] on weekends, that number could rise by up to five times, and in some periods

it exceeds the average for 170 thousand pilgrims, especially in October, when it is celebrated the Day of Our Lady Aparecida.

The Religious Tourist Complex of the National Shrine, situated in the town of Aparecida, in the countryside of São Paulo state, Brazil, is the largest Marian pilgrimage centre and the second largest Catholic church in the world, with capacity to receive up to 75 thousand people. Administered by the Redemptorists missionaries since 1894, the shrine occupies a plot of 1,352,765m^2 and possesses a built area of 142,865m^2, harboring the Support Centre for Pilgrims, with 380 shops, including large food court, and a healthcare service: an ambulatory located on the outside of the sanctuary to meet the health problems presented by pilgrims during their visits to the Shrine Complex. The service, held in financial terms and managed by the Sanctuary, is not hinged to the municipal health service system; until the period studied, there was not even a record of this ambulatory in the National Registry of Health Facilities (CNES).

The service works from Monday to Friday (from 7 am to 7 pm) and weekends (from 7 am to 7:30 pm). It offers ten beds for observation, hydration room, dressing room and the emergency room. The ambulatory has a multidisciplinary team, consisting of two nurses, eight technicians of nursing, two hostesses and two helpers to sanitation services, all working in schedule of shifts per turn - morning and afternoon. A physician works in flexible hours, doing 2 hours daily from Monday to Friday (usually from 2 to 4 pm); on weekends, two doctors work in duty regime (from 7 am to 7 pm). The service is performed as follows: the pilgrims attend spontaneously or are brought in by ambulance (without advanced life support equipment) from the place where they meet, if they present any health problems during the visit to the Complex. There is no classification of risk upon arrival: when the doctor is in the ambulatory, the medical consultation and treatment is performed. If the doctor is not present, the patient is attended by a nurse and technicians: in case there is the need to a higher complexity assistance and/or continuity of medical attention at a time beyond the period of operation of the ambulatory, the patient is referred (in the same basic ambulance) to a municipal emergency room, which is part of the urgency care networks,[9] (located at the Santa Casa site), 2.5 km from the Sanctuary.

All data on the assistances made in the medical clinic of the National Shrine of Our Lady of Aparecida, during the period from the 1st of January, 2011 to the 31st of December, 2014 were included. It was analyzed the ambulatory assistance of that institution. The registry of assistance records was performed manually.

For the data extraction it was used an instrument drawn up by researchers, including the following variables: sex (male; female); age group (0-9, 10-19, 20-29, 30-39, 40-49, 50-59 and ≥ 60 years); origin by macro-region of the country and federative unit of origin (North-AC, AP, AM, PA, RO, RR and TO; Northeast-AL, BA, CE, MA, PB, PE, PI, RN and IF; Midwest -DF, GO, MV and MS; Southeast-SP, RJ, MG and ES; and South -PR, SC and RS); period of assistance (morning, afternoon); year, month, and day of the week on which the assistance was performed; and outcome (ambulatory care or referral to another health service).

The variables 'type of attendance' and 'reason for demanding' to the clinic were tested in another study.[10]

For the period from 2011 to 2014, it was calculated the average number of monthly assistances and the relative frequency of annual assistances compared to the number of visitors in the same year (in percentage).[11] Considering the month of October 2014, the frequencies were calculated in the categories of variables and the proportion of ignored information.

This study consists of a descriptive assessment of the distribution of sessions held in October 2014, motivated by the fact that the chosen period is the busiest one of the year. The data were tabulated with the Microsoft® program Office Excel®.

In order to investigate the health care strategies, it was analyzed documents, provided by the coordinators of the service, that mentioned the structure and organization of services related to health demands of pilgrims. It was identified, in those documents, reference to recommendations for mass events proposed by WHO and the Ministry of Health, such as: protocols, flow charts, procedures, operating plan, pan of emergency and contingency.

The project of the study was approved by the Research Ethics Committee (CEP) at the Universidade Federal do Estado do Rio de Janeiro (UNIRIO): Report No. 690,431, of the 13th June, 2014.

Results

From 2011 to 2014, 46,082,846 people visited the shrine and 95,011 demanded assistance in the ambulatory, with reduction of the frequency of people who undergone such health care: 2011 (25,000), 2012 (25,000), 2013 (24,000) and 2014 (21,000). However, in the same period, the number of individuals in the ambulatory of the Sanctuary who were referred to the Municipal Emergency Room increased (Figure 1).

In Figure 2, it was observed that, between 2011 and 2014, the monthly average of assistances in the ambulatory from July to December was greater (n=2,353) than the period from January to June, which corresponded to 1,635. Coinciding with the largest tourist movement in the Sanctuary. On the 12th October, 2014 – October 12 is the feast day of our Lady of Aparecida -, it was reached the record of the last ten years, with the presence of 195,098 pilgrims.

The detailed analysis for the month of October 2014 (Table 1), it was observed that there was a higher frequency of visits on Sundays (33%), followed by Saturdays (28%) and Fridays (10%), with the highest concentration of appointments in the morning period (63%) and slight female predominance (59%) among individuals attended. Considering the age group, people over 60 years (33%) and those with 50 to 59 years (15%) sought the clinic more often. Most of patients came from the Southeastern region (79%), followed by the Southern (8%), Midwestern (3%) and Northeastern (2%) regions of Brazil. These individuals were mainly from the states of São Paulo (38%), Minas Gerais (32%), Rio de Janeiro (8%) and Paraná (5%).The variables with the greatest presence of ignored data were age (13%) and origin (8%).

Considering the research on the strategies of health care in the ambulatory of the Religious Touristic Complex, when selected periods of great religious touristic movement in the Sanctuary, it was identified the absence of protocols, flow charts, procedures, operating plan, emergency and contingency plan, related to the planning and organization of actions in these periods.

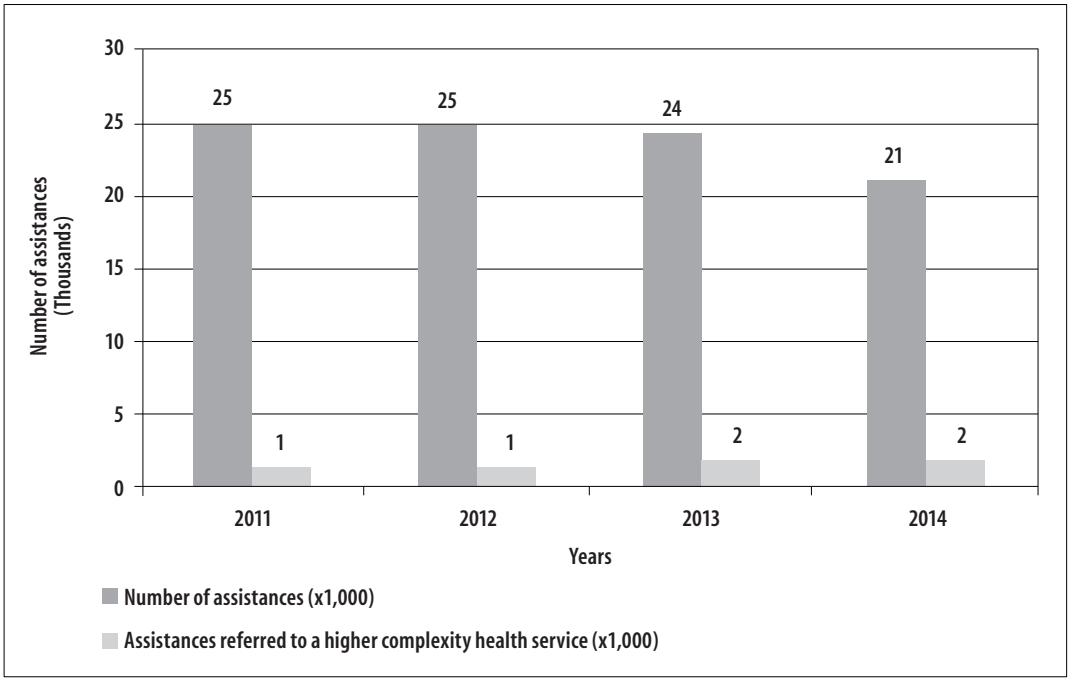

Figure 1 – Distribution of performed assistances in the ambulatory of the National Sanctuary of Our Lady of Aparecida and of referred cases to higher complexity attendance in the municipality of Aparecida, São Paulo, 2011-2014

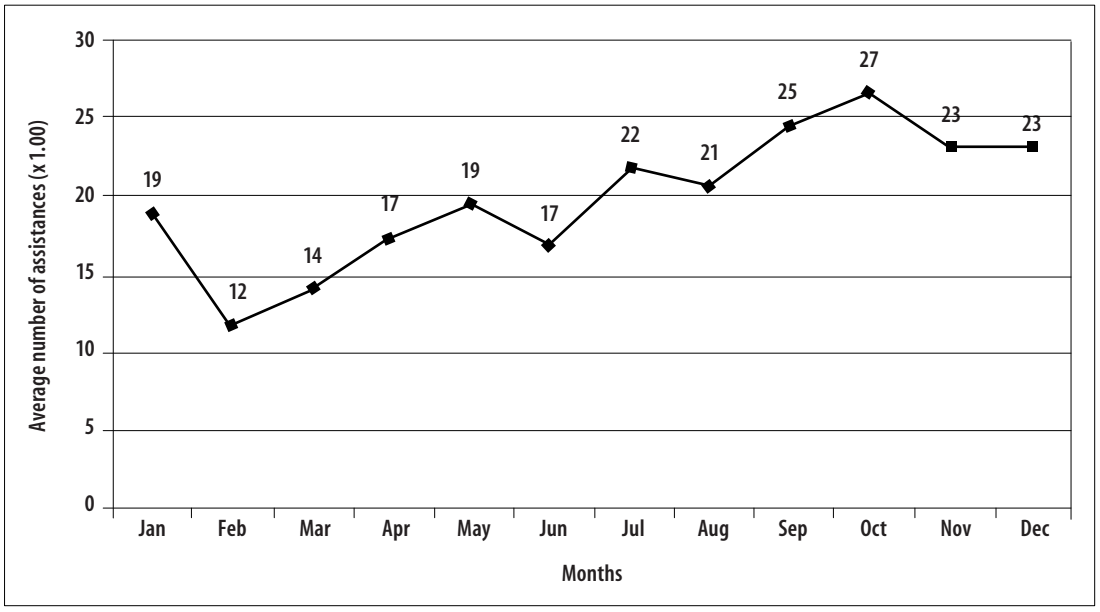

Figure 2 – Monthly average of assistances performed in the ambulatory of the National Sanctuary of Our Lady of Aparecida, according to the month, in the municipality of Aparecida, São Paulo state, 2011-2014

Discussion

This is the first study to present the characteristics of assistances and the measures taken for organizing the health assistance to pilgrims, in the Touristic Complex of the National Shrine of Our Lady of Aparecida, the main and largest center of religious pilgrimage in Brazil. Unlike other places of pilgrimage, such as Juazeiro do Norte in Ceará state, which in periods of most important festivals – feast of Our Lady of Candeias, Our Lady of Sorrows and of the Dead –, install emergency medical unities in areas near places of visitation and offer primary care services,[2] in national shrine of Our Lady of Aparecida, this service operates continuously throughout the year. In addition to this service offered inside the Sanctuary, the assistance of emergency is maintained by the Mobile Emergency Care Service (SAMU) and the Fire Department Rescue Team in the nearby area.[10]

The discrete female predominance amongst patients, corroborates another study carried out in a place of religious pilgrimage conducted in the Northeastern region of Brazil[2], noting that females constitute the majority audience for this type of event. Many of the pilgrims who sought health care in the ambulatory of the sanctuary came from the Southeast, primarily the state of São Paulo in Brazil. Nevertheless, there were assistances for people of all regions of Brazil.

Furthermore, in the present study, it was observed that the occurrence of public health emergency events are more probable to occur during the weekends, and also with higher proportion of cases referred to another, emergency room, due to the necessity of continuity of assistance and/or greater complexity. This pattern is similar to the one described in national literature, which demonstrates that, in a religious event 7.4% of pilgrims remained in observation and 2.4% were transferred to another health service[2]. In another study though, on sportif mass event, 3.2% required transfer to a higher level of complexity and 2.5% required hospitalization.[1] Such findings were also observed in the international literature.[12,13] Thus, it draws attention this large population displacement caused by a mass event and the risks of spreading communicable diseases.[4,8,14]

Mass events has been a challenge to health managers, and demand for the development of programs and policies in the area of public health in order to prevent the importation of diseases, promote and protect the health of migrants and of the local population.[4,8] It is the responsibility of health authorities to assess, approve the planning, and monitor the implementation of the activities proposed

Table 1 – Demographic characteristics of individuals (n=2.266) of the ambulatory of the National Sanctuary of Our Lady of Aparecida, municipality of Aparecida, São Paulo state, October of 2014

Characteristics	(n)	(%)
Sex		
Male	929	41
Female	1,333	59
Not informed	4	0
Age group (in years)		
0-9	153	7
10-19	161	7
20-29	151	7
30-39	192	8
40-49	237	10
50-59	332	15
≥ 60	747	33
Not informed	293	13
Origin (Brazilian macroregion)		
Southeast	1,800	79
South	184	8
Midwest	50	3
Northeast	43	2
North	8	0
Abroad	1	0
Not informed	181	8
Origin (Federative Unit)		
São Paulo-SP	861	38
Minas Gerais-MG	725	32
Rio de Janeiro-RJ	181	8
Paraná-PR	113	5
Santa Catarina-SC	54	3
Espirito Santo-ES	40	2
Rio Grande do Sul-RS	28	1
Bahia-BA	21	1
Goiás-GO	25	1
Mato Grosso do Sul-MS	16	1
Mato Grosso-MT	06	0
Pernambuco-PE	06	0
Ceará-CE	06	0
Amazonas-AM	04	0
Paraíba-PB	04	0
Distrito Federal-DF	03	0
Rondônia-RO	03	0
Alagoas-AL	02	0
Rio Grande do Norte-RN	02	0
Maranhão-MA	01	0
Sergipe-SE	01	0
Tocantins-TO	01	0
Not informed	180	8

Continue on next page

Table 1 – Conclusion

Characteristics	(n)	(%)
Day of the week		
Sunday	767	34
Saturday	638	29
Friday	239	11
Thursday	188	8
Wednesday	165	7
Tuesday	128	6
Monday	117	5
Period		
Moorning	1,428	63
Afternoon	838	37

by the organizers of events, concerning the prevention, risk mitigation and preparation of the project for providing health services to the people involved.[14] Notwithstanding the large number of pilgrims who visit the Sanctuary[5], confirmed cases of endemic disease[15], and environmental disasters[16], it was identified the absence of organizational instruments and an action plan for the periods of great religious touristic movement in the site.

According to the WHO, the preparation of such events begins with the assessment of the risk scenario and the preparation of the operating plan of the mass event. This evaluation document, focused on the preparation of services and staff, includes a set of activities to be developed before, during and after the event.[4,8] This process must be continuous and include, additionally, the constant check of how the health system and the community must deal with a possible increase in the demand for assistances.[14]

Due to the lack of a risk scenario evaluation, and the absence of an operating plan preparation for a mass event, in the year 2013, Brazil suffered the second-biggest tragedy related to this topic: the fire occurred at the Kiss Club, in the city of Santa Maria-RS, on the 27th of January, 2013, with 242 fatalities. Amidst these fatalities, 235 died that day, asphyxiated by the inhalation of toxic fumes, and about a thousand others were injured. Technical reports of the Forensics Institute confirmed the poisoning produced by carbon monoxide (CO) and hydrogen cyanide (HCN), resulting from the combustion of polyurethane foam used for acoustic insulation in the ceiling of the nightclub.[17,18] The first major national tragedy, occurred in 1961, in the city of Niterói-RJ, in the Gran Circus Norte Americano, where 503 people were victimized.[18]

National and international literature show that the great concentration of people in a single geographic area, combined with the poor conditions of hygiene and nutrition, such as precarious hygienic handling of food, inadequate waste management and sanitation, increase the risk of spreading infectious diseases, with possibility of high rates of morbidity and mortality due to communicable diseases.[3,19,20] Besides, there are other health problems, such as worsening of pre-existing chronic-degenerative diseases, traumas and deaths resulting from acts of violence and terrorist attacks.[21] In previous studies on Christian mass events, the prevalence of infectious diseases[3,12,13,22], symptoms of digestive diseases (gastroenteritis), fever and headache, mainly due to the trip held in poor conditions were described.[2] Another study stressed that 57% of the pilgrims travel by bus to arrive at the National Shrine of Aparecida-SP, usually in tours organized by the parishes, taking advantage of the affordable price; on the other hand, they have to deal with the unfavourable conditions of comfort and hygiene on these trips.[23]

The other aspect considered important by the WHO concerns surveillance. Its duties are related to (i) control of communicable diseases, (ii) control of the non-communicable diseases, (iii) monitoring the health situation, (iv) environmental surveillance in health, (v) the health surveillance of workers (vi) health surveillance. Specific activities[24] on each of these health surveillance actions are carried out whenever there is a possibility of a public health

emergency, which requires urgent measures to prevent, control and contain risks, damages and harms to public health (outbreaks and epidemics), disasters and other events.[14,24]

One of the main sources of information for surveillance, which aims to prepare for the healthcare needs at the Sanctuary of Aparecida, used in the present study, are, the ambulatory assistance forms. However, they presented low completness for some variables. From the medical records of assistances to the pilgrims in Juazeiro do Norte-CE, it was possible to trace the profile of demand and point out the critical assistance issues, especially for sanitary vigilance – particularly the supervision of trade in food – and epidemiological surveillance, with the objective of (i) early identification of communicable diseases, (ii) prevention of occurrence of outbreaks and epidemics and (iii) prevention of spread of disease.[1] Problems related to information and communication record generated conflicts in active surveillance and profile of assistances in football World Cup 2014 in the city of Fortaleza, capital of Ceará state. Syndromic surveillance has begun belatedly, favoring the loss of opportunity for early detection of possible outbreaks related to diarrheal, respiratory and exanthematic syndromes, not being identified event of great importance for Public Health.[2]

Another important source of information for surveillance is the annual calendar of touristic movement[25], which is elaborated by the press office of the Sanctuary and the Cultural Department of the municipality. The calendar tells the movement days, describes the type of expected population in each pilgrimage (pilgrimage of the third age, children, cyclists, riding, among others), the duration of the celebration and the origin of the pilgrims. Public profile during each event may trigger and/or increase risks. These specific events can attract participants from certain risk groups, increasing the chance of being a source or becoming susceptible to infections. This may create challenging scenarios for the prevention and control of diseases.[26]

The third point mentioned by the WHO is the type of response to be triggered when emergency situations in mass events occur. Considering the National Shrine and the municipality of Aparecida-SP, such responses – also mentioned by the Ministry of Health to nationwide mass events – should be forseen in an emergency and contingency plan. An emergency plan consists of an array of institutional and operational rapid response, with the function of protecting from health hazards, reducing impacts and limiting the progression of a disease or crisis. The contingency plan, aligned to the emergency plan, is the specific design of performance for each type of probable event that can occur.[8]

Periods of increased number of pilgrimages and festivals in the municipality of Aparecida-SP should be considered for the establishment of a contingency plan, including installation of additional service, close to places of greater visitation, managed by the Municipal Health Department and the Sanctuary. However, neither the city of Aparecida, nor the National Shrine, have such instruments.

It becomes absolutely necessary to establish an appropriate organization for the local health, articulating the facilities and services inside and outside the Shrine, in all spheres of management – federal, state-level and municipal level -, seeking suitable conditions for the development of the activities inherent to a mass event like the visit of the heads of State – the Pope, e.g. – or more appropriate to minor events in accordance with the recommendations of the Ministry of Health and WHO.

The results presented here are of the utmost importance, because they call attention to the need for the development of health policies and actions aimed at prevention, preparedness and performance in hazards that may occur in mass events.

Some limitations for the development of this study should be highlighted, such as the fact that the ambulatory assistance sheets were filled manually and its components 'age' and 'origin' were with incomplete data. Besides the inability to measure the variables, the 'reason for the demand' and the 'type of care' were also incomplete. All these variables constituted important data to trace profile and to indicate specific public health actions. It is concluded that these limitations have undertaken, albeit partially, the quality of the investigation.

From the point of view of Public Health, mass events like the religious tourism, pilgrimages, sporting competitions and concerts of music are becoming larger and more frequent in Brazil, representing a substantial risk of spreading infectious diseases[27] and therefore demanding greater supply of health services.[28]

The accomplishment of these events brings up the debate on political and administrative issues, involving decisions about public spending and capacity of states and municipalities to ensure an adequate and sufficient public health services and infrastructure to attend not only tourists, but also the resident population.

To meet the challenges represented by mega events, offering safety to tourists and the general population, can also mean a chance for investment in professional training and qualification of services in the area of urgency and emergency. Moreover, the implementation of information and communication technologies in health, aiming at monitoring and response to emergency situations, represents benefits that can be left as permanent legacies for the organization of the health system.[13]

Authors' contributions

Carmo HO and Valente TCO contributed in the conception and the study design, analysis and interpretation of the data, writing and review relevant of the intellectual content of the manuscript. Both authors have approved the final version of the manuscript and declare to be responsible for all aspects of the work, ensuring their accuracy and integrity.

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