

Microbiological Case Report: Epidemiological Characteristics and Update of Covid-19 Cases in St. Lucia

Sambasivarao Yaragalla^{1*}, Lydia Atkins², Vaishnavee vilas wagh³, Raut Rajeshree Renukadas³, Naushad Khan³, and Navami Guru³

¹Microbiology, Spartan Health Sciences University, Community Health and Research Centre of Spartan, St. Lucia & Country Ambassador for Microbiology to St. Lucia through ASM-American Society for Microbiology.

²Department of Clinical Science, Public Health, Spartan Health Sciences University.

³Basic Science, Spartan Health Sciences University and Members of ASM International Student Chapter St. Lucia.

Abstract

Coronavirus disease 2019 (COVID-19) is a potentially severe acute respiratory infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was identified as the cause of an outbreak of pneumonia of unknown cause in Wuhan City, Hubei Province, China, in December 2019. The clinical presentation is that of a respiratory infection with a symptom severity ranging from a mild common cold-like illness, to a severe viral pneumonia leading to acute respiratory distress syndrome that is potentially fatal [1,2].

The clinical presentation resembles viral pneumonia, and the severity of illness ranges from mild to severe. Approximately 80% of patients present with mild illness, 14% present with severe illness, and 5% present with critical illness. Severe illness is associated with older age and the presence of underlying health conditions. Older patients and/or those with comorbidities may present with mild symptoms, but have a high risk of deterioration. Atypical presentations may occur, especially in older patients or patients who are immunocompromised. To aid the analysis and tracking of the COVID-19 we collected and curated individual-level data from national, provincial, and municipal health reports, as well as additional information from online reports. In this study we presented only the Microbiological History and an Update of COVID-19 Cases in St. Lucia [3-5].

Corresponding author: Sambasivarao Yaragalla, Microbiology and Immunology, Spartan Health Sciences University, Community Health and Research Centre of Spartan, St. Lucia, Caribbean. E-Mail: siva@spartanmed.org

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Introduction

Coronavirus Disease 2019 (COVID-19) is a novel coronavirus first discovered in Wuhan City, Hubei Province, China in November 2019. On January 22, 2020, the Chinese Government declared a state of emergency due to the unprecedented outbreak of atypical pneumonia in China, from COVID-19. The World Health Organization declared the outbreak a “public health emergency of international concern” on January 30, 2020 and characterized it as a pandemic on March 11, 2020 [6-9].

As of April 25, 2020, the WHO reported over two and a half million (2,774,135) cases of COVID-19, and 190,871 related deaths across two hundred and thirteen (213) affected countries, territories or areas. Public health measures in response to the pandemic are coming at a high cost as the national policies of many countries focus on the prevention of the global spread of COVID-19. The global community has taken various approaches to containment of the virus, with many countries implementing what has been describes as draconian measures of social distancing, which required country-wide lockdowns and 24-hour curfews restricting the movement of persons [10].

This continually evolving pandemic that is without precedent in the last century threatens to disproportionately affect developing countries like the Caribbean, with the potential to overwhelm under-resourced health facilities and fragile health systems which have limited absorptive capacity for an outbreak at less the scale of what has been seen in more developed countries like China, Europe and the United States. This paper describes the outbreak of COVID-19 in Saint Lucia and reviews the epidemiologic characteristics based on data of 15 confirmed cases between March 14, 2020 and April 10, 2020.

Methods

This report was compiled using data from official government sources, and from additional data confirmed and announced by the press. This method was adopted from peer-reviewed scientific papers that reported primary data as the gold standard for data inclusion.

Government sources included press releases on the official websites of Ministry of Health and Wellness or Regional Public Health Organizations, as well as updates provided by the official social media accounts of governmental or public

health institutions [5].

Ethics Statement

National ethical approval or individual consent was not applicable for this report. Publicly published data was used in this study, and therefore consents from individual patients have not been obtained.

Results

Case Presentations

Case-1(March 14, 2020): A British female,63 years old with travel history from United Kingdom entered St Lucia from Grenada with her husband via British Airways [11].

Case-2 (March 14, 2020): A fifty-three-year-old male with an active travel history with France being his last port of departure [12].

Case-3 (March 23, 2020): A 43 year old female with a travel history to the US with experiencing flu-like symptoms [13].

Case-4 (March 28, 2020): A 49-year-old female national, nurse by profession, with a travel history to the United Kingdom [14].

Case-5 (March 30, 2020): A 24 year old female with travel history to New York [15].

Case-6 (March 30, 2020): A 45 year old female with a travel history to New York [15].

Case-7 (March 30, 2020): A 47 female with recent travel history to Barbados and Dominica [15].

Case-8 (March 30, 2020): A 36 male who had travel history to Barbados [15].

Case-9 (March 30, 2020): A 74 year old female with no travel history or known contact with an individual with travel history [15].

Case-10 (March 31, 2020): A 37 year old female with no travel history but was in contact with someone within the tourism industry [16].

Case-11 (March 31, 2020): A 34 year old female with no travel history and no known contact with someone with significant travel history [16].

Case-12 (March 31, 2020): A 54 year old female with no travel history [16].

Case-13 (March 31, 2020): A 40 year old male with no travel history but contact with persons with recent travel into Saint Lucia [16].

Case-14 (April 4, 2020): A 56-year-old female who is the contact of one of our previous confirmed cases [17].

Case-15 (April 10, 2020): An 18-year-old male who is a close contact of a previously confirmed case [18].

Epidemiologic Characteristics

Examination of demographic characteristics of the 15 confirmed patients in Saint Lucia showed that 11 (73.3%) and 4 (26.6%) were female and male, respectively. Thirteen of the patients were nationals, with two identified as non-national visitors from Europe [19].

The median age of all patients was 44 years (± 15) with a range of (18-74), (Table 1). In total, 8 patients constituted index cases, while 7 were first-generation contact cases (Graph 2). The epidemic curve plotted according to the date of diagnosis, ranges from March 14, 2020 to April 15, 2020 and shows that the highest number of cases were on March 30, 2020 (Graph 3).

Characteristics	N (%)
Female	11 (77.3)
Age (yrs)	
<20	1 (6.7)
20-29	1 (6.7)
30-39	3 (20)
40-49	5 (33.3)
50-59	3 (20)
60-69	1 (6.7)
70-79	1 (6.7)
Source of Infection	
Index case (n=8)	
Europe	3 (37.5)
USA	3 (37.5)
Caribbean	2 (25)
Contact case/ 1st generation	7 (46.7)

Table 1: Summary of epidemiologic characteristics of 2019 novel coronavirus disease of the 15 cases in Saint Lucia.

Country	Total Cases	Total Recovered	Active Cases	Total Deaths	Total Tests
Saint Lucia	15	15	4	0	344

Table 1: Corona virus cases in St.Lucia [20].

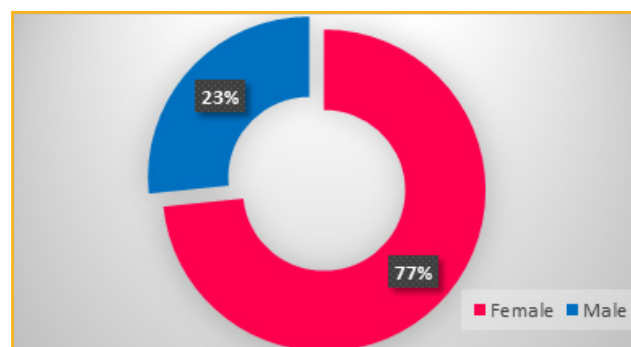


Figure 1: showing Sex Distribution of COVID19 Reported Cases in St. Lucia.

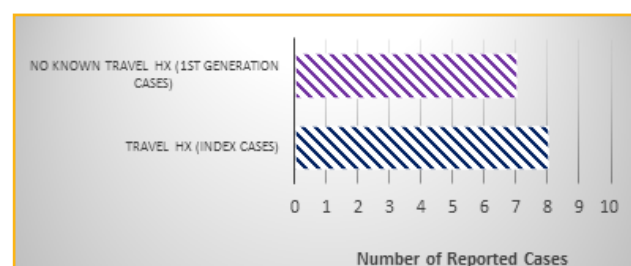


Figure 2: Travel History Status for Reported COVID19 Cases.

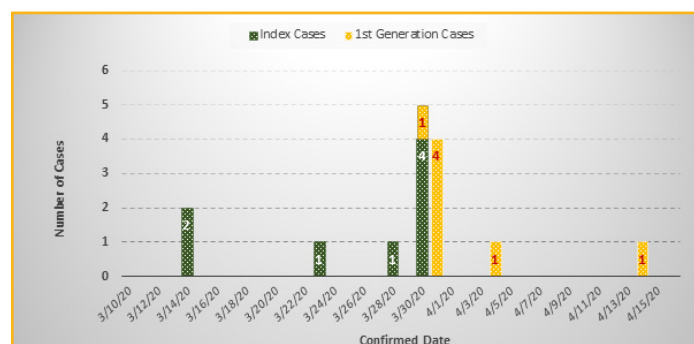


Figure 3: Epidemic curve according to disease-confirmed date for the 15 confirmed cases in Saint Lucia

Discussion

As of April 22, 2020, Saint Lucia reported a total of 15 confirmed cases of COVID-19. Of these 8 had travelled history to Europe, USA and the Caribbean, and were infected outside of Saint Lucia. The remaining 7 were identified as 1st generation cases, 2 having contact with known locally confirmed cases and 5 with known

contact with persons with significant travel history.

To date, all of the positive cases of COVID-19 in St. Lucia have recovered. This now places Saint Lucia at a 100 percent recovery of all COVID-19 cases. Among the 15 cases St. Lucia recorded were individuals who fell within the category of high risk by virtue of some being elderly as well as living with chronic illness. They too recovered well with no complications or needed critical care [21].

Saint Lucia's strategic approach to COVID-19 has focused on containment and aggressive preventive measures to flatten the curve and slow the spread of the virus. Like many other Caribbean countries, Saint Lucia implemented early social distancing policies that have proven effective in countries such as China [2].

Conclusion

Saint Lucia's early successes at flattening the curve, while based on limited data, maybe due to the rigorously applied non-pharmaceutical, public health measures to interrupt chains of human-to-human transmission. The high transmissibility, substantial fatal outcomes in high-risk groups (elderly and persons with compromised immune system response due to chronic conditions, and its ability to cause huge societal and economic disruption and the draconian measures needed to be implemented in response, makes COVID-19 unique among human coronaviruses. The novel nature, our continuously evolving understanding of COVID-19, and the possibility for asymptomatic cases in the population requires that the non-pharmaceutical interventions applied in Saint Lucia needs to be supported with aggressive parallel testing for surveillance of asymptomatic cases.

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