Management of the Coronavirus Screening Center in Macaé: from implantation to results

Gestión del Centro de Cribado de Coronavirus en Macaé: de la implantación a los resultados

Gestão do Centro de Triagem do Coronavírus em Macaé: da implantação aos resultados

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Abstract

Cross-sectional study that aims to: describe the experience of the city of Macaé in implementing the Coronavirus Screening Center; describe the nurse's role in implementing the CTC; present the profile of COVID-19 in the municipality of Macaé. Conducted from the analysis of notifications from the Information System for the Epidemiological Surveillance of Influenza and e-SUS VE in the period between March and July 2020. The data were tabulated and analyzed with the statistical resources of Microsoft Excel and Tabwin. The main symptoms identified were cough and fever and the number of cases was higher in males. The predominant age was between 30 and 49 years. It is concluded that the CTC became a municipal reference in the reception and monitoring of cases of COVID-19 and that nursing had a fundamental role in the organization of this service, in addition to appearing as the main category notified from the consultations.

Descriptors: Coronavirus; Public Health Surveillance; Nursing.

Resumén

Estudio transversal que tiene como objetivo: describir la experiencia de la ciudad de Macaé en la implementación del Centro de Detección de Coronavirus; describir el papel de la enfermera en la implementación del CTC; presentar el perfil de COVID-19 en el municipio de Macaé. Realizado a partir del análisis de notificaciones del Sistema de Información para la Vigilancia Epidemiológica de Influenza y e-SUS VE en el período comprendido entre marzo y julio de 2020. Los datos fueron tabulados y analizados con los recursos estadísticos de Microsoft Excel y Tabwin. Los principales síntomas identificados fueron tos y fiebre y el número de casos fue mayor en los hombres. La edad predominante fue entre 30 y 49 años. Se concluye que la CTC se convirtió en un referente municipal en la recepción y seguimiento de casos de COVID-19 y que la enfermería jugó un papel fundamental en la organización de este servicio, además de emerger como la principal categoría notificada de las consultas.

Descriptores: Coronavirus; Vigilancia de la Salud Pública; Enfermería.

Resumo

Estudo transversal que tem como objetivos: descrever a experiência do município de Macaé na implantação do Centro de Triagem do Coronavírus; descrever o papel do enfermeiro na implantação do CTC; apresentar o perfil da COVID-19 no município de Macaé. Realizado a partir da análise das notificações do Sistema de Informação da Vigilância Epidemiológica da Gripe e e-SUS VE no período entre março e julho de 2020. Os dados foram tabulados e analisados com os recursos estatísticos do *Microsoft Excel* e do *Tabwin*. Os principais sintomas identificados foram tosse e febre e o número de casos foi maior no sexo masculino. A idade predominante foi entre 30 e 49 anos. Conclui-se que o CTC se tornou referência municipal no acolhimento e acompanhamento dos casos de COVID-19 e que a enfermagem teve papel fundamental na organização desse serviço, além de surgir como principal categoria notificada a partir dos atendimentos.

Descritores: Coronavírus; Vigilância em Saúde Pública; Enfermagem.

Introduction

On January 30, 2020, the World Health Organization (WHO) declared a Public Health Emergency of International Importance, due to the spread of the coronavirus, and on February 3, 2020, the Ministry of Health declared a Public Health Emergency of Importance. Nacional (ESPIN) through Ordinance MS No. 188, and according to Decree No. 7,616, of November 17, 2011[1].

The spread began on December 31, 2019, when China reported to the WHO about pneumonia cases of unknown etiology detected in the city of Wuhan, Hubei province. A new type of coronavirus was identified and isolated on January 7, 2020 by Chinese authorities[1].

Coronavirus is a family of viruses that cause respiratory infections. The first human coronaviruses were isolated for the first time in 1937, however, it was only in 1965 that the virus was described as coronavirus, due to its crown-like characteristic observed under microscopy.

On March 11, 2020, WHO classified Coronavirus Disease 2019 (COVID-19) as a pandemic, which points out that the virus is already circulating on all continents and there are cases of oligosymptomatic cases, making it difficult to identify[2].

This whole scenario required managers and health teams to prepare a contingency plan with the establishment of actions aimed at coping with the disease, such as preventive measures, case monitoring and preparation of the medium and high complexity network for the care of patients in need. hospitalization. On April 1, the State Department of Health issued a technical note on the Creation of 2019 Coronavirus Screening Centers (CTC) to offer adequate structure to the population and prevent the spread of the virus transmission chain[3].

This study aims to describe the experience of the municipality of Macaé in implementing the Coronavirus Screening Center, describe the nurse's role in implementing the CTC and present the profile of COVID-19 in the city of Macaé.

Methodology

This is a cross-sectional study based on the analysis of the records of notifications from the Influenza Epidemiological Surveillance Information System (SIVEP Gripe) and e-SUS VE and the latter was developed by DATASUS, exclusively to meet the high demand for notifications due to COVID-19, from March 17 to July 12, 2020. The study scenario was the city of Macaé, which has a population of 256,672 inhabitants (IBGE estimate for 2019), with 128,636 males (50.1%) and 128,036 females (49.9%).

The data were tabulated and analyzed with the statistical resources of Microsoft Excel and the program Tabwin. The analysis variables were age group, sex, symptoms, hospitalizations, deaths by sex and age.

As these are epidemiological surveillance actions developed by professionals linked to health services, in the context of the emergency situation in Public Health, the study was exempt from submission to the Research Ethics Committee (CEP). The ethical aspects contained in Resolution No. 466/12 were observed. The results were presented in an aggregated manner, ensuring individual confidentiality.

Results

The results will be divided into two stages: the first will describe the process of implementation and operation of the Coronavirus Screening Center (CTC), and the second will present the profile of patients with COVID-19 in the municipality.

Step 1: The deployment

The process started with the establishment of the physical space. The service was installed at the Dr. Jorge Caldas Specialties Center, and became the municipal reference centering all COVID-19 services. The spaces for reception, reception, risk classification, medical care, physiotherapy, hypodermia, red room with rapid response team, warehouse, call center, cafeteria, nursing coordination, situation room, with transfer of surveillance services were defined health and epidemiological surveillance for the site. The attendance flows and printed forms to be used in attendance were prepared. The CTC works in accordance with the technical note from the state health department, which states that the physical structure must be exclusive to users suspected of having COVID-19, who can reach the service by spontaneous demand or by referral from other services[3].

The CTC was organized to operate in conjunction with the COVID-19 infirmary, which was reserved at the Public Hospital of Macaé, with the objective of receiving patients who need observation from the Screening Center. To this end, the service has an ambulance, which remains available for the need to transfer.

For the implementation of the service, nurses, doctors, nursing technicians and physiotherapists were hired. The CTC started operating with a 12-hour day service, however, there was a need for expansion to 24 hours. To guarantee the activities, it was necessary to acquire permanent materials, which were relocated from other services, which had their operations suspended. The inputs were acquired through emergency purchase, including personal protective equipment.

Step 2: The results

According to SIVEP Gripe and e-SUS VE, from March 17 to July 12 the municipality had (n = 6360) notifications of COVID-19, with (n = 4090) confirmed by laboratory examination and (n = 1229) by epidemiological link, totaling (n = 5319) patients with COVID-19. SIVEP Gripe has (n = 938) confirmed cases, while e-SUS VE has (n = 3152).

Of the total cases confirmed by laboratory examination, (n = 1095) were by RT-PCR, and (n = 2995) by serological test. Of the total number of confirmed cases (n = 5319), 48% were female (n = 2553) and 52% male (n = 2766). The predominant age group was from 30 to 49 years old, who added (n = 2677) people, corresponding to 50% of the total public served. The population over 50 years old totals

26% with (n = 1389). Children under 1 year old received (n = 50) consultations while from 1 to 4 years old were (n = 75) notifications and from 5 to 9 years old totaled (n = 39). Adding the ages of 10 to 19 years there were (n = 169) visits. When relating the age group to sex, there is a balance of approximately 50% among the majority, except for children under one year old, with a predominance of 60% in the male population (n = 30).

The occupation field was registered only in the notifications from health professionals, considering that the system (e-SUS VE) only allowed filling in for this segment. Of the total of (n = 5319), only (n = 395) had this information filled in, which corresponds to only 7%. Of the total of notifications, with filled occupation, (n = 138) were from a nursing assistant or technician, adding up to 35% of the categories attended. Following with notifications from nursing assistants and technicians, there is the medical category with (n = 72) records, totaling 18%. Nurses appear as the third most notified group, with (n = 60), adding up to 15%. Community Health Agents appear next with (n = 31) corresponding to 8% of the total.

Of the patients notified in the SIVEP Gripe database (n = 968), 47% required hospitalization (n = 460), while (n = 398) did not, and 41% (n = 110) notification forms had the information in white or ignored, corresponding to 12%.

At the Public Hospital of Macaé, according to SIVEP Gripe, there were (n = 188) hospitalizations, however, according to records from the Hospital Surveillance Nucleus, there were (n = 386) hospitalizations, with (n = 237) positive for COVID-19.
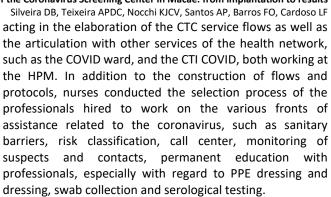
Regarding to the symptoms mentioned in the notifications, cough appears in 90% of the notifications with (n = 3696) records, followed by fever with 75% (n = 3109) records, sore throat with (n = 2034) quotes with 49%, dyspnea was mentioned by (n = 1098) patients, corresponding to 27%, headache appears in (n = 812) notifications, with 20% and loss of smell and taste and diarrhea appear in 4% of notifications.

Deaths by COVID-19 add up (n = 94) and the neighborhoods with the highest record are Lagomar (n = 9), corresponding to 9%, followed by Parque Aeroporto (n = 9), Barra de Macaé (n = 8), adding 8.5%, Miramar (n = 6), with 6%, Center with (n = 5) deaths and 5% of the total. When relating deaths to the age group, it is observed that (n = 67) are over 60 years old, corresponding to 71% of this public, followed by those between 50 and 59 years old who add (n = 17) to 18% of the total . The age group with the lowest death record was between 30 and 39 years old with two records and there was no death in those under 20 years old. Regarding death by sex, (n = 52) were male, 55% and (n = 42) were female, corresponding to 45% of the total.

Pregnant women between 20 and 39 years old were notified (n = 6), one in the first trimester, one in the second trimester and four in the third trimester.

Discussão

The implementation of the CTC in the city of Macaé was managed by a team of nurses in conjunction with various services. Nursing had a significant participation acting in the elaboration of the CTC service flows as well as the articulation with other services of the health network, such as the COVID ward, and the CTI COVID, both working at the HPM. In addition to the construction of flows and protocols, nurses conducted the selection process of the professionals hired to work on the various fronts of assistance related to the coronavirus, such as sanitary barriers, risk classification, call center, monitoring of suspects and contacts, permanent education with professionals, especially with regard to PPE dressing and dressing, swab collection and serological testing.

It is observed that, although in the e-SUS VE and SIVEP Gripe database there are (n = 6360) people notified and tested, the municipality tested and notified 17,332 people from March until July 12, (n = 15200) with serological test and (n = 2132) with TR-PCR. The difference in the amount of registration in the information systems and the real numbers is due to the fact that the e-SUS VE system undergoes continuous modification, due to the high number of simultaneous accesses, which makes the system slow and the typing delay. Considering the high number of tests and the number of professionals for typing, it is not possible to follow test-typing in real time, so that the typing of all positive results has been prioritized.

The municipality of Macaé invested efforts in testing the population. In addition to testing for symptomatic patients, the municipality offered serological testing for the asymptomatic population in several neighborhoods that had the highest record of cases. It is noteworthy that the tests for symptomatic patients were performed within the CTC and, according to the time of symptoms, the RT-PCR or the serological test was used. The latter was also offered in some family health units.

In addition to testing in the communities, mandatory testing was carried out for the return of workers linked to the trade, which has been happening with gradual opening and conditioning the negative testing of employees.

Of the total number of positives by RT-PCR or serological test presented by the e-SUS VE and SIVEP Gripe databases, the results of the private laboratories that notified the epidemiological surveillance are included. According to a parallel survey by the external testing team, it is identified that of the total of (n = 17332) exams performed, (n = 15200) were serological tests and 27% of them (n = 4128) were positive. Of the (n = 2132) RT-PCR performed, (n = 554) positive 26%.

Of the positive cases of COVID-19 recorded in e-SUS VE and SIVEP Gripe, a balance was observed between male and female and the most affected age group was between 30 and 49 years. The smallest number of confirmed cases was in children under 1-year-old.

As for deaths, they occurred predominantly in the group over 60 years old, which totals 70% and occurred in greater numbers in the male population. Most of the deaths occurred in the Lagomar neighborhood, followed by the Airport and Barra de Macaé, neighborhoods in which the failure to comply with the determination of social isolation was identified and they still had several services in operation, in addition to social events.

Little record of COVID-19 was observed in pregnant women (n = 12). This group is believed to have followed the isolation guidelines to avoid pregnancy disorders, either because of the little information available about the consequences of COVID-19 on the fetus, or because of the concern about the need to seek care in health services, considered highly contaminated spaces.

Regarding the main reported symptoms, it appears that they are in accordance with the literature regarding the records of cough and fever, very common symptoms since the onset of the disease, as well as gastrointestinal symptoms such as diarrhea and also, the symptoms of loss of smell and palate, which despite not appearing on the notification form, were also mentioned and recorded[4].

About occupation, there is a poor record of this information. It is believed that it is still little valued by professionals when filling out, and, in addition, it was identified that there was a lack of clarity for the workers who made the registration, as to the meaning of the acronym CBO (Brazilian Classification of Occupations), as stated on the notification form.

In relation to health professionals, it was observed that nursing assistants and technicians are the category with the largest number of confirmed cases, confirming data from the Ministry of Health. in direct patient care, this group of professionals is more exposed to infection.

Hospitalization information points, as well as other data, to a deficiency in notifications, which impacts on underreporting and information with little reliability, signaling the need for the services to create their own database concomitantly to the awareness of professionals regarding the correct completion of the forms. It is observed that there is little understanding and appreciation of professionals about the importance of properly filling out notifications. It is worth mentioning that the entire CTC in the municipality was computerized to streamline the processing of information, reduce the use of paper by reducing the risk of contamination, facilitate the billing process and create electronic medical records for post-COVID-19 health services[4].

Conclusion

The implementation of the Macaé CTC ensured the access of patients with suspected COVID-19 to a service that has become a reference, due to the infrastructure, multidisciplinary team and provision of equipment and exams, which contributed to the rapid diagnosis, timely isolation and monitoring of contacts . With the considerable increase in the number of cases, especially due to the large number of tests performed, monitoring has become a difficulty. With the creation of the CTC, it was also possible to avoid the transit of symptomatic patients in different parts of the city and also to reduce the flow of care at the Public Hospital of Macaé, preventing infection of patients with other diagnoses.

Finally, it is highlighted that the nurse played a fundamental role in structuring the service, as well as organizing the protocols and flows that were created and implemented throughout the process.

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