H3N2 as the new influenza virus circulating in Brazil and the reflexes on Family and Community Health

Abstract

The increase in cases of influenza virus infections in the last quarter of this year has drawn attention to an old acquaintance of humanity. The flu, as it is popularly called, has generated regional outbreaks across the country, driven by the introduction of a new strain of subtype A (H3N2), named Darwin. Currently, three types of influenza viruses are known: A, B and C. The first two are more likely to cause seasonal epidemics in different parts of the world, while the last one usually causes milder cases. Type A influenza is classified into subtypes such as A (H1N1) and A (H3N2). Type B is divided into two lineages: Victoria and Yamagata. Although they have genetic differences, all types can cause similar symptoms, such as high fever, cough, sore throat, headaches, body and joint aches, chills and fatigue.

Keywords: influenza A virus, H3N2 subtype, family health strategy, nursing, H3N2 virus, eye irritation, vomiting, joint pain, cough, malaise and diarrhea, appetite

Introduction

Ethical analysis of associated and independent researchers in the area of health in Brazil

The H3N2 virus is a variant of the Influenza A virus, which is one of the main causes of the common flu and colds, being easily transmitted between people through droplets released into the air when the person with the flu coughs or sneezes. Symptoms are high fever at the beginning of infection, sore throat, chills, loss of appetite, eye irritation, vomiting, joint pain, cough, malaise and diarrhea, especially in children.1

Because influenza is a respiratory virus, like the one that causes Covid-19, prevention against it occurs in the same way, that is, with physical distance between people, use of a mask and hand hygiene. The incubation period for the H3N2 virus is three to five days, when symptoms begin. However, it is also possible for a person to have the disease in an asymptomatic form, without showing any reaction. During the incubation period or in cases of asymptomatic infections, the patient can also transmit the disease.2

The period of transmission of the virus in children is up to 14 days, while in adults it is up to seven days. The disease can begin to be transmitted up to a day before the onset of symptoms. The period of greatest risk of contagion is when there are symptoms, especially fever. Recommendation: People who have flu-like symptoms should seek medical attention at the Basic Health Unit closest to their residence. Even with lower lethality than Covid-19, H3N2 is more likely to evolve into serious cases in risk groups (children, the elderly, pregnant women and individuals with comorbidities).3

The spread of the virus may be related to the low flu vaccination coverage and the relaxation of the restriction and prevention measures adopted against Covid-19. Brazil has vaccines that protect against the Influenza A and B virus, however, they are not specific for the H3N2 variant, which is reaching the country. According to the Butantan Institute, the largest producer of flu vaccines in the Southern Hemisphere, the forecast is that the vaccine for H3N2 will arrive in Brazil from March 2022.4

The City Hall of a city in Brazil, through the Municipal Health Department, confirmed the first case of the H3N2 virus in the city in question. Samples of materials collected from patients with negative flu symptoms for Covid-19 were sent to Fundação Ezequiel Dias (Funed) for investigation of possible circulation of the H3N2 virus in the municipality.5

The Epidemiological Surveillance received the result with the confirmation of a positive case for H3N2. Because influenza is a respiratory virus, like the one that causes Covid-19, prevention against it occurs in the same way, that is, with physical distance between people, use of a mask and hand hygiene.6

Even with lower lethality than Covid-19, H3N2 is more likely to evolve into serious cases in risk groups (children, the elderly, pregnant women and individuals with comorbidities). The spread of the virus may be related to the low flu vaccination coverage and the relaxation of the restriction and prevention measures adopted against Covid-19.7

Care

The Municipal Health Department reinforces the need for care and safety measures that must be taken during the Christmas and New

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Year festivities. Social distancing, hand hygiene, use of masks and vaccination are effective attitudes against the transmission of viruses.8

**Vaccination**

The influenza vaccine is being made available, on the days and places of vaccination against Covid-19, for people over 12 years old who have not yet been vaccinated against the flu this year. Children under 12 years of age must attend the Basic Health Units in their neighborhood, on the vaccination days of each unit, accompanied by their parents or guardians to be vaccinated and for the routine Vaccination Card check. Immunization actions are extremely important to protect against the disease.9

**Symptoms**

Some symptoms of H3N2 can initially be confused with a common flu, however, patients report that they had worse reactions than when they contracted Covid-19, such as sneezing, coughing, runny nose, chills, excessive tiredness, nausea and vomiting, diarrhea (more frequent in children), and ease. Incubation The incubation period for the H3N2 virus is three to five days, when symptoms begin. However, it is also possible for a person to have the disease in an asymptomatic form, without showing any reaction. During the incubation period or in cases of asymptomatic infections, the patient can also transmit the disease. The period of transmission of the virus in children is up to 14 days, while in adults it is up to seven days. The disease can begin to be transmitted up to a day before the onset of symptoms. The period of greatest risk of contagion is when there are symptoms, especially fever.10

**Recommendation**

People who have flu-like symptoms should seek medical attention at the Basic Health Unit, closest to their residence.16

It is important to clarify that the first national case in Brazil occurred due to the increase in cases of influenza virus infections in the last quarter of this year, which has attracted attention to an old acquaintance of humanity. The flu, as it is popularly called, has generated regional outbreaks across the country, driven by the introduction of a new strain of subtype A(H3N2), named Darwin. The first identification of the new strain in the country was carried out by the Laboratory of Respiratory Viruses and Measles at the IOC, the large number of people infected with the flu virus is also the result of the combination of a reduced circulation of the influenza virus in 2020 with the low adherence to that year’s vaccination campaign.13

The researcher recalls that the precautions to avoid the contagion and transmission of the flu are the same that the population has used to stop the transmission of Covid-19. “Social distancing, avoidance of agglomerations, use of masks, constant hand hygiene and respiratory etiquette. These are measures that we saw over the last year and that probably caused several respiratory viruses to disappear from circulation. And, of course, they mitigated the transmission of the coronavirus”, said Fernando Motta.15

**Family and community health, primary care (AB), family health program**

In order for there to be an organized and effective follow-up of the cases by the Primary Care health teams, the Ministry of Health has prepared a card that can be delivered by health professionals to the patient at the first consultation and which contains information about warning symptoms and recommendations. General hygiene. This card should also record the services performed, as well as the date of onset of symptoms, prescribed treatment and notification number, when made.14

The use of the card depends on the organization of the municipal health system, with the objective of facilitating the monitoring of cases of Influenza Syndrome. For those municipalities that have a computerized medical record system, perhaps the use of this card is not so important.14

It is recommended that the basic health unit to which the patient is linked is responsible for monitoring the patient during the first seven days. This follow-up involves: • Checking if the symptoms are regressing; and • Check for signs of aggravation, such as a resurgence of fever and/or the appearance of dyspnea; in this case, arrange for the removal of the patient to the referral service and inform the Epidemiological Surveillance.15

In areas covered by the Family Health Program, it is recommended that follow-up be carried out through a home visit or by telephone contact, if possible daily or, at least, on three alternate days (3rd, 5th and 7th days of disease evolution) for any member of the health team, at the time scheduled by the team, to inform about the evolution of symptoms.16

Where there are no Family Health teams, it is recommended that the follow-up be carried out by a health professional linked to the Municipal Health Department. In both cases, if the symptoms worsen, a medical reassessment is recommended and, if possible, this The patient must be referred to an emergency care unit or referral hospital.

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according to the flow established by the State Health Department (SES) or Municipal Health Department (SMS).16,17,18

“It is extremely important to finish this study authentically, questioning the issues of Family and Community Health, informing the scientific academy that it was a critical and reflective text of an authentic character”.

Acknowledgments

None.

Conflicts of interest

The author declares there is no conflicts of interest.

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