LETTER TO THE EDITOR

# Emergency due to COVID-19 in the Southern Sierra of Oaxaca and the agenda 2030 for sustainable development

## *Emergencia por COVID-19 en la Sierra Sur de Oaxaca y la agenda 2030 para el desarrollo sustentable*

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Sr. Editor:

We return with great interest to the article by Cervantes et al[1], and in this sense Oaxaca is very far from the *2030 Agenda for Sustainable Development* associated with the COVID-19 pandemic. In municipalities with the system of "Political Parties"[2], as is the case of Miahuatlán de Porfirio Díaz, Oaxaca, the health crisis is aggravated by the lack of capacities of the municipality in health control, associated with epidemiological factors such as denial of the disease or participation in religious gatherings (Table1). At an economic level, the municipality is a commercial and livestock population, and in this sense there is no adequate sanitary management of shops, markets and street stalls related to this activity. Demographically, the increase in foreign migrants, Mexicans and university students persists, which implies the mobilization of different genetic variants of interest (VOI), the most frequent being the alpha and beta class in adults, and worrisome (VOC) such as delta in young people[3]. In private medical practice, there are limited doctors certified for the management of COVID-19, and inappropriate viral diagnostic practices are carried out, such as the rapid antigen test, which translates into an increase in pre-symptomatic patients. There has been a lack of genomic surveillance using massive sequencing techniques to monitor VOIs and VOCs in users of Health services, IMSS, ISSSTE, DIF, hospitals and private clinics to initiate early treatment[3,4]. There is also a lack of subsidy for emerging medicines. On the other hand, there is no *Pooled Testing qRT-PCR* in public services, shops, workplaces or schools, which has reduced the detection of asymptomatic carriers[5]. There is a disconnect between the municipal government and the institutional and private health sector, and a polycentric manual has not been generated with the guidelines for local management, which explains the existence of more cases than those reported by the official institutions that attend to COVID-19, whose control is beyond the organic functions of the local health council (Fig. 1).

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**Table 1. Epidemiological factors of the health crisis caused by COVID-19 in Miahuatlán de Porfirio Díaz, Oaxaca, Mexico**

| Sociocultural and religious factors | Sanitary factors | Demographic factors | Medical practice factors | Public politics |
|---|---|---|---|---|
| Denial of the existence of the disease | Vaccination reluctance | Foreign migrants (tourism) | Lack of certified doctors for COVID-19 care | Lack of detection campaigns for asymptomatic and pre-symptomatic carriers due to *Pooled Testing RT-PCR,* as well as by genomic sequencing |
| Processions of religious worship and masses (Catholics) | Lack of use of face masks | Country migrants residing outside of Mexico | Use of inappropriate treatments by official health institutions | No emerging drugs with antiviral activity have been purchased |
| Meetings and religious assemblies or sects (non-Catholics) | The culture of healthy distance is not preserved | University migrants from the State of Oaxaca (students) | Exaggerated treatments in the private sphere, more than 20 medications are applied simultaneously | The population is not subsidized for the purchase of support medications and oxygen tanks |
| Religious gatherings, baptisms, weddings, communions, confirmations | Lack of a culture of sanitizing and hand washing | University migrants from outside Oaxaca (students) | No subclinical detection due to lack of expertise | Genomic sequencing studies to identify genetic variants of interest and concern of SARS-CoV-2 are not subsidized |
| Realization of funeral ropes; weekly, monthly, yearly | No sanitary control of the municipal market | University migrants from the State of Oaxaca (teacher) | Lack of expertise in the detection of coinfection with bacterial pneumonia, community pneumonia, and influenza pneumonia | Viral load and pathogenic activity studies in infected patients are not subsidized |
| Family celebrations open to the public | Non-sanitary control of street and stable businesses | University migrants from outside Oaxaca (teacher) | Diagnosis through rapid antigen test | Decoupling between institutional and private medical practice |
| Horseback riding, as well as public and private rodeos | Lack of sanitary control of the tianguis for the sale of cattle | Lack of confinement between people in neighborhoods and neighborhoods | There are no certified doctors in pulmonary rehabilitation and oxygen therapy | There is no release of vaccines for sale to the public |

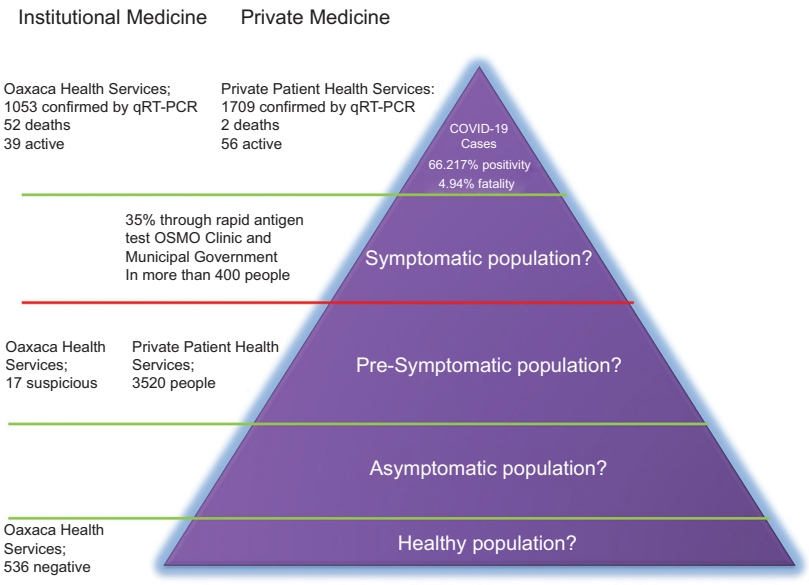


**Figure 1.** *Health crisis due to COVID-19 in Miahuatlán de Porfirio Díaz, Oaxaca, Mexico. The patients that are detected in private practice exceed the cases confirmed by the official instructions of the epidemiological traffic light in the municipality. Active cases only represent the tip of the iceberg, but in reality the number of infected people is higher.*

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## Conflicts of interest

There are no conflicts of interest on the part of any of the authors.

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