One-house one-person testing: Strategical plan to limit COVID-19 spread in stage three in the developing world

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To the Editor—Coronavirus disease 2019 (COVID-19) is a respiratory viral disease discovered in Wuhan Province of China in November 2019, but soon the SARS-CoV-2 virus has spread across the entire world, and the World Health Organization (WHO) declared COVID-19 a pandemic in March 2020. In the hour of crisis, the only preventive measures were strict quarantine; hygiene maintenance with regular handwashing; covering mouth, nose, eyes, and ears; risk screening at airports and railways; and social distancing. A strategy was proposed after the advent of a virus-specific molecular polymerase chain reaction (PCR) test called “mass screening” that involved testing nasal and throat swabs from the random population to assess viral spread and to isolate those infected from the healthy population. The strategy gained widespread approval in developed countries, and huge random populations were screened. However, the cost of testing was an obstacle for developing nations; governments intended to adopt this strategy but could not due to the overwhelming expense.

Consequently, COVID-19 outbreaks across the globe have continued to occur, with less PCR testing of the population because of overburdened healthcare system and economic limitations under strict lockdowns. As of April 23, 2020, 2,630,516 confirmed COVID-19 cases, along with 183,924 COVID-19 deaths and 58,139 COVID-19 patients in critical condition have been reported. Most of the cases reported have been attributed to local transmission through respiratory droplets. Most countries have implemented strict lockdowns, but the results have not been satisfactory in terms of local transmission control and adverse economic effects.

I propose a method of screening that can be used in remote areas and developing nations during stage 3 of the COVID-19 pandemic; it is cost efficient and has a high probability of isolating asymptomatic cases. Theoretically, the strategy could also ease the lockdowns rapidly and thus help mitigate the global economic crisis during stage 3 of this pandemic. This technique may be highly useful in overcrowded and slum areas that show higher transmission from asymptomatic cases.

As reported in previous studies, COVID-19 spreads rapidly through droplets, and the probability of infection is increased if a person comes in contact with any infected patient. However, asymptomatic cases, which may be as high as 84% of all cases, may have similar transmission risks as symptomatic patients. For those quarantined in their homes, the most vulnerable victims may offer a substantial decrease in the burden of disease, especially in countries with larger populations and limited resources.

I request that researchers conduct cross-sectional studies to execute this plan, which could save lives by preventing local transmission from asymptomatic COVID-19 cases.

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Table 1. Studies Reporting Family Clusters

| Study            | Familial Cases, No. | Index Patient, No. |
|------------------|---------------------|---------------------|
| Jiang XL, et al  | 6                   | 2                   |
| Ye F, et al      | 2                   | 3                   |
| Zhang J, et al   | 4                   | 1                   |
| Qian G, et al    | 7                   | 2                   |
| Li P, et al      | 4                   | 1                   |
| Guan Q, et al    | 6                   | 1                   |

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Angiotensin-converting-enzyme inhibitors (ACE inhibitors) and angiotensin II receptor blocker (ARB) use in COVID-19 prevention or treatment: A paradox

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To the Editor—Coronavirus disease 2019 (COVID-19), which affects type II alveolar cells of the human lung, is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This virus was identified in December 2019 in Wuhan, China, for the first time, and has spread all over the world, leading to a global pandemic. Renin-angiotensin system (RAS) signaling and angiotensin-converting enzyme 2 (ACE2) have been implicated in the pathogenesis of COVID-19. The virus binds to its target cells through angiotensin-converting enzyme 2 (ACE2), which is found in the type II alveolar cells of the lungs. Furthermore, ACE2 receptors are expressed in many extrapulmonary tissues such as heart, kidney, testis, endothelia, and the gastrointestinal tract.

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