ARTICLES RELATED TO OMICRON NEW VARIENT IN (B.1.1.529): SARS-COV-2 VARIANT OF CONCERN) 26 NOVEMBER AFRICA

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ABSTRACT
On 26 November 2021, WHO designated the variant B.1.1.529 a variant of concern (VOC), on the basis of advice from WHO’s Technical Advisory Group on Virus evolution. The variant has been given the name Omicron. Omicron is a highly divergent variant with a high number of mutations, including 26-32 in the spike, some of which are concerning and may be associated with immune escape potential and higher transmissibility. However, there are still considerable uncertainties.

The main uncertainties are how transmissible the variant is and whether any increases are related to immune escape, intrinsic increased transmissibility, or both; how well vaccines protect against infection, transmission, clinical disease of different degrees of severity and death; and does the variant present with a different severity profile. Public health advice is based on current information and will be tailored as more evidence emerges around those key questions.

Key words: Omicron, mutations, variant, immune escape.

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INTRODUCTION:
On 26 November 2021, WHO designated the variant B.1.1.529 a variant of concern, named Omicron, on the advice of WHO’s Technical Advisory Group on Virus Evolution (TAG-VE). This decision was based on the evidence presented to the TAG-VE that Omicron has several mutations that may have an impact on how it behaves, for example, on how easily it spreads or the severity of illness it causes. Here is a summary of what is currently known.

TRANSMISSIBILITY
It is not yet clear whether Omicron is more transmissible (e.g., more easily spread from person to person) compared to other variants, including Delta.

About The Virus:
The B.1.1.529 variant was first reported to WHO from South Africa on 24 November 2021. The epidemiological situation in South Africa has been characterized by three distinct peaks in reported cases, the latest of which was predominantly the Delta variant. In recent weeks, infections have increased steeply, coinciding with the detection of B.1.1.529 variant. The first known confirmed B.1.1.529 infection was from a specimen collected on 9 November 2021.

Variants of Concern (VOC)
Working definition:
A SARS-CoV-2 variant that meets the definition of a VOI (see below) and, through a comparative assessment, has been demonstrated to be associated with one or more of the following changes at a degree of global public health significance:
- Increase in transmissibility or detrimental change in COVID-19 epidemiology; OR
- Increase in virulence or change in clinical disease presentation; OR
- Decrease in effectiveness of public health and social measures or available diagnostics, vaccines, therapeutics.

Currently designated Variants of Concern (VOCs)*:

<table>
<thead>
<tr>
<th>WHO label</th>
<th>Pango lineage*</th>
<th>GISAID clade</th>
<th>Next strain clade</th>
<th>Additional amino acid changes monitored*</th>
<th>Earliest documented samples</th>
<th>Date of designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>B.1.1.7</td>
<td>GRY</td>
<td>20I (V1)</td>
<td>+S:484K +S:452R</td>
<td>United Kingdom, Sep-2020</td>
<td>18-Dec-2020</td>
</tr>
<tr>
<td>Beta</td>
<td>B.1.351</td>
<td>GH/S01Y.V2</td>
<td>20H (V2)</td>
<td>+S:L18F</td>
<td>South Africa, May-2020</td>
<td>18-Dec-2020</td>
</tr>
<tr>
<td>Gamma</td>
<td>P.1</td>
<td>GR/S01Y.V3</td>
<td>20J (V3)</td>
<td>+S:681H</td>
<td>Brazil, Nov-2020</td>
<td>11-Jan-2021</td>
</tr>
<tr>
<td></td>
<td>B.1.1.529</td>
<td>GR/484A</td>
<td>21K</td>
<td>-</td>
<td>Multiple countries, Nov-2021</td>
<td>VOC: 26-Nov-2021</td>
</tr>
</tbody>
</table>

* See TAG-VE statement issued on 26 November 2021 only found in a subset of sequences

LABORATORY
- The variant of concern Omicron belongs to Pango lineage B.1.1.529, Next strain clade 21K, GISAID clade GR/484A, is characterized by 45-52 amino acid changes, including 26-32 the spike protein compared to the reference strain.
- Most diagnostic tests continue to work and can detect the variant of concern Omicron.
- S gene dropout or S gene target failure (SGTF) due to deletion at Spike position 69-70, similar to the detection of the Alpha variant, has been reported. The Thermo Fisher Taq Path assay can therefore be used as proxy test for this variant, pending sequencing confirmation. Use of the SGTF approach may lead to faster detection rates.
RISK FACTORS:
Health systems around the world are being challenged by increasing demand for care of COVID-19 patients, it is critical to maintain preventive and curative services, especially for the most vulnerable populations, such as children, older persons, people living with chronic conditions, minorities and people living with disabilities.

Severity of disease: It is not yet clear whether infection with Omicron causes more severe disease compared to infections with other variants, including Delta. Preliminary data suggests that there are increasing rates of hospitalization in South Africa, but this may be due to increasing overall numbers of people becoming infected, rather than a result of specific infection with Omicron.

Effectiveness of prior SARS-CoV-2 infection
Preliminary evidence suggests there may be an increased risk of reinfection with Omicron (i.e., people who have previously had COVID-19 could become reinfected more easily with Omicron), as compared to other variants of concern, but information is limited. More information on this will become available in the coming days and weeks.

Effectiveness of current tests: The widely used PCR tests continue to detect infection, including infection with Omicron, as we have seen with other variants as well. Studies are ongoing to determine whether there is any impact on other types of tests, including rapid antigen detection tests.

Effectiveness of current treatments:
Corticosteroids and IL6 Receptor Blockers will still be effective for managing patients with severe COVID-19. Other treatments will be assessed to see if they are still as effective given the changes to parts of the virus in the Omicron variant.

Effectiveness of vaccines: WHO is working with technical partners to understand the potential impact of this variant on our existing countermeasures, including vaccines. Vaccines remain critical to reducing severe disease and death, including against the dominant circulating variant, Delta. Current vaccines remain effective against severe disease and death.

RECOMMENDED ACTIONS FOR PEOPLE
The most effective steps individuals can take to reduce the spread of the COVID-19 virus is:
- to keep a physical distance of at least 1 meter from others;
- wear a well-fitting mask;
- open windows to improve ventilation;
- avoid poorly ventilated or crowded spaces;
- keep hands clean;
- cough or sneeze into a bent elbow or tissue;
- and get vaccinated when it’s their turn.

WHO will continue to provide updates as more information becomes available, including following meetings of the TAG-VE. In addition, information will be available on WHO’s digital and social media platforms.

REFERENCES