

# Effects of chlorhexidine gluconate and povidone-iodine mouthwash on viral load in patients infected with SARS-CoV-2

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| <b>Submission date</b><br>28/04/2025   | <b>Recruitment status</b><br>No longer recruiting        | <input type="checkbox"/> Prospectively registered<br><input checked="" type="checkbox"/> Protocol                       |
| <b>Registration date</b><br>02/05/2025 | <b>Overall study status</b><br>Completed                 | <input checked="" type="checkbox"/> Statistical analysis plan<br><input type="checkbox"/> Results                       |
| <b>Last Edited</b><br>30/04/2025       | <b>Condition category</b><br>Infections and Infestations | <input type="checkbox"/> Individual participant data<br><input checked="" type="checkbox"/> Record updated in last year |

## Plain English summary of protocol

### Background and study aims

This study looks at how different mouthwashes affect COVID-19 patients. COVID-19 is caused by the SARS-CoV-2 virus, which can change and become more contagious. Some mouthwashes might help reduce the virus in the mouth. The study aims to see if two types of mouthwash (0.2% chlorhexidine gluconate and 1% povidone-iodine) can lower the amount of virus in patients with COVID-19.

### Who can participate?

The study includes 45 patients who have COVID-19.

### What does the study involve?

Participants are divided into three groups. One group uses 0.2% chlorhexidine gluconate mouthwash, another uses 1% povidone-iodine mouthwash, and the third group uses mineral water as a control. They gargle with their assigned solution three times a day for five days. Researchers test the amount of virus in their mouth at the start, on day three, and on day five.

### What are the possible benefits and risks of participating?

The main benefit is potentially reducing the amount of virus in the mouth, which might help with recovery. Risks are minimal but could include mild irritation from the mouthwash.

### Where is the study run from?

The study is conducted by the Oral and Maxillofacial Surgery Department at the Faculty of Dentistry, Universitas Indonesia.

### When is the study starting and how long is it expected to run for?

August 2022 to December 2022

### Who is funding the study?

The study is funded by Universitas Indonesia through the PUTI Grant

Who is the main contact?  
Prof Lilies Dwi Sulistyani, liliesdwi\_s@yahoo.co.id

## Contact information

### Type(s)

Public, Scientific, Principal Investigator

### Contact name

Prof Lilies Dwi Sulistyani

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## Additional identifiers

### EudraCT/CTIS number

Nil known

### IRAS number

### ClinicalTrials.gov number

Nil known

### Secondary identifying numbers

73/KEPK-RSUPP/08/2022

## Study information

### Scientific Title

Effects of chlorhexidine gluconate and povidone-iodine mouthwash on cycle threshold values in patients infected with SARS-CoV-2

### Acronym

Effects of mouthwash on SARS-CoV-2

### Study objectives

Chlorhexidine gluconate and povidone-iodine mouthwash increase cycle threshold values in patients infected with SARS-CoV-2

### Ethics approval required

Ethics approval required

### **Ethics approval(s)**

Approved 31/08/2022, Health Ethics Committee of Persahabatan Central General Hospital (Persahabatan Raya No.1, East Jakarta, 13230, Indonesia; +62 214891708; info@rsuppersahabatan.co.id), ref: 73/KEPK-RSUPP/08/2022

### **Study design**

Single-blinded non-randomized controlled clinical trial

### **Primary study design**

Interventional

### **Secondary study design**

Non randomised study

### **Study setting(s)**

Hospital

### **Study type(s)**

Efficacy

### **Participant information sheet**

See study outputs table

### **Health condition(s) or problem(s) studied**

Reduction of SARS CoV-2 viral load

### **Interventions**

This single-blind, nonrandomized controlled clinical trial comprised 45 patients who were divided into three intervention groups: 0.2% chlorhexidine gluconate (MINOSEP®) mouthwash group (n = 15); 1% povidone iodine (BETADINE®) mouthwash group (n = 15), and mineral water (AQUATM, DANONE-Indonesia) control group (n = 15). The mouthwash was repackaged in a 125 ml bottles. Each subject received two bottles (total, 225 ml of mouthwash) and 15 ml measuring cups.

Patients who met the inclusion criteria and were being treated at the oral and maxillofacial surgery clinic underwent RT-PCR examination. Collection of sample material for RT-PCR was carried out by a trained personnel in the microbiology laboratory at Persahabatan Hospital, and there was no specific time for sample collection. The patients were instructed to gargle with 15 ml of the mouthwash (30s in the oral cavity and 30 s in the back of the throat) three times a day for 5 days. After gargling, they were asked to rinse their mouth with 15 ml of water.

Observations were carried out via video call after every gargle. RT-PCR examinations were performed to obtain the CT values at initial diagnosis and on days 3 and 5. All sample materials for RT-PCR were taken from the oropharynx. The Vitro Master Diagnostica® (IVD Reagent MAD-003941M, Spain) reagent was used in RT-PCR. The use of this reagent in all samples will allow CT values to be measured as well as S gene targets to be identified. Samples without the S gene will be categorized as SGTF, whereas samples with the S gene will be categorized as non-SGTF.

### **Intervention Type**

Other

**Primary outcome measure**

The CT values were estimated from the RT-PCR results at initial diagnosis, and on days 3 and 5

**Secondary outcome measures**

Cycle Threshold value of RT-PCR on day 3 and 5

**Overall study start date**

31/08/2022

**Completion date**

31/12/2022

**Eligibility****Key inclusion criteria**

1. SARS-CoV-2-positive patients based on RT-PCR results over the past <3 days
2. An RT-PCR CT value of  $\leq 30$
3. Outpatients with mild or no symptoms
4. Aged 20 to 50 years

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

20 Years

**Upper age limit**

50 Years

**Sex**

Both

**Target number of participants**

30

**Total final enrolment**

45

**Key exclusion criteria**

1. Patients with comorbidities
2. History of allergy to povidone iodine mouthwash and chlorhexidine gluconate
3. Pregnant females
4. Those who were not willing to participate in the study

**Date of first enrolment**

01/09/2022

**Date of final enrolment**

30/12/2022

## **Locations**

**Countries of recruitment**

Indonesia

**Study participating centre**

**Persahabatan Hospital**

Persahabatan Raya No.1

East Jakarta

Indonesia

13230

## **Sponsor information**

**Organisation**

University of Indonesia

**Sponsor details**

Jl. Lingkar, Pondok Cina, Beji

Depok

Indonesia

16424

+62 217867222

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**Sponsor type**

University/education

**Website**

<http://www.ui.ac.id/>

**ROR**

<https://ror.org/0116zj450>

## **Funder(s)**

**Funder type**

University/education

**Funder Name**

Hibah PUTI Universitas Indonesia

## Results and Publications

**Publication and dissemination plan**

Planned publication in a peer-reviewed journal

**Intention to publish date**

01/06/2025

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study are not expected to be made available due to patients confidentiality

**IPD sharing plan summary**

Not expected to be made available

**Study outputs**

| Output type                                   | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---------|--------------|------------|----------------|-----------------|
| <a href="#">Participant information sheet</a> |         |              | 30/04/2025 | No             | Yes             |
| <a href="#">Protocol file</a>                 |         |              | 30/04/2025 | No             | No              |
| <a href="#">Statistical Analysis Plan</a>     |         |              | 30/04/2025 | No             | No              |