

# STI & HIV 2023 WORLD CONGRESS

## CHICAGO, IL USA 24-27 JULY 2023

**Abstract Title:** Laboratory Evaluation of Oral Fluid for Syphilis Screening, Lima, Peru

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### ABSTRACT PREVIEW: LABORATORY EVALUATION OF ORAL FLUID FOR SYPHILIS SCREENING, LIMA, PERU

[Laboratory Evaluation of Oral Fluid for Syphilis Screening, Lima, Peru](#)

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## Abstract

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### Track

Basic & Translational Science

### Focus of Study:

- Diagnostics: Novel Methods
- Diagnostics: Rapid Tests/Point of Care

### Type of Study

- Basic Science

### Pathogen of research

- Treponema pallidum

### Geographic Region of Research

- America/Latin

**What is your preferred format for this abstract? (please put oral presentation, poster, or no preference)**

Poster

### Abstract (350 words maximum)

Background:

Syphilis remains a curable bacterial sexually transmitted infection (STI), with a global burden of 7.1 million new cases during 2020. Serological tests for syphilis require equipment unavailable in many health centers; however, point-of-care testing has allowed rapid screening using finger-prick whole blood samples. A further improvement could be the use of oral fluid. We evaluated the performance of treponemal antibody point-of-care testing for syphilis screening using oral fluid samples.

**Methods:**

Individuals who routinely attended STI clinics in Lima, Peru, were recruited. We collected oral fluid using the OraSure collection device (OraSure Technologies Inc., USA) according to manufacturer's instructions and serum from each participant. Oral fluid and serum were analyzed using the SD Bioline Syphilis 3.0 rapid test (Standard Diagnostics Inc., Korea). Oral fluid was processed using 30µL + 2 drops of sample diluent, while serum was processed using 10µL + 4 drops of sample diluent; serum were also tested using RPR (RPR slide test, Wiener Laboratorios SAIC, Argentina) and TPPA (Serodia, Fujirebio Diagnostics Inc., Japan). We assessed oral fluid rapid test overall percent agreement, sensitivity, and specificity against the following comparators: (1) serum SD Bioline Syphilis, (2) serum TPPA, and (3) both TPPA and RPR reactive or both TPPA and RPR non-reactive.

**Results:**

Among 324 participants, median age was 31.5 years (IQR: 11.5) and 71.6% were male. Nearly half (51.3%) reported prior syphilis and 30.6% were living with HIV. The overall percent agreement, sensitivity, and specificity of oral fluid was 71.0% (95% CI: 65.7% – 75.9%), 78.2% (71.3% – 83.8%), and 63.5% (55.8% – 70.6%), respectively, versus serum SD Bioline Syphilis; similar results were obtained versus serum TPPA. The overall percent agreement and sensitivity increased when using the third comparator (74.6% [68.8% – 79.8%] and 86.6% [78.9% – 92.3%], respectively). When limiting the sample to TPPA-reactive with RPR titer  $\geq 1:8$ , the sensitivity increased to 88.1% (75.0% – 94.8%), but the percent agreement decreased to 70.4% (63.3% – 76.9%).

**Conclusions:**

We observed a good performance of the rapid treponemal test using oral fluid. Further investigations are needed to improve the specificity of oral fluid as a potential sample for accurate syphilis screening.

**Uploaded File(s)****Upload Table or Figure**

Table 1. Performance of the use of oral fluid in the treponemal antibody rapid test for syphilis screening.

table1\_oral fluid.pdf

**Young Investigators and Scholarships**

Do you need a scholarship?

Yes

Are you an early-career investigator?

Yes

If yes, please provide the date of completion of your highest degree:

2020-11-25

If not, are you currently a student, post-doctoral trainee, or clinical trainee?

No

If yes, please provide the start date for your graduate degree or clinical training:

Are you the presenting author for the abstract you have submitted to the 2023 STI & HIV World Congress?

Yes

If you are applying for a scholarship, in 100 words or less, please describe why you need a scholarship to attend ISSTD 2023 in Chicago. Please note that you MUST complete this section only if you are applying for a scholarship.

My name is Jazmin Qquellon, I am from Peru, and I have a Master of Science degree in Epidemiology Research. My research focuses on the development of diagnostic alternatives that allow timely and proper coverage of HIV and STI screening in vulnerable populations. Since 2020, I have been investing my salary in family members who depend on me, so I do not have enough financial savings to cover all the expenses to attend this prestigious event. However, I know that these lectures will positively impact my professional training, as well as expand my professional network.

Gender?

cis-female

