risks. Demographic and social characteristics were collected at enrollment. Individuals were considered vaccinated if they had received at least one dose of a SARS-CoV-2 vaccine under FDA emergency use authorization. Vaccine perceptions were compared by SARS-CoV-2-infection and vaccination status using Pearson's chi-squared, alpha=5%.

**Results.** Between April-May 2021, 115 individuals completed the one-year follow-up. Table 1 includes sociodemographic characteristics of adults, of which the majority were vaccinated and were unemployed or in non-essential occupations. Most individuals agreed the SARS-CoV-2 vaccine can prevent infection and hospitalization (Figure 1A & B). Unvaccinated participants more often agreed that those who contracted SARS-CoV-2 should not receive the vaccine (30%), whereas vaccinated persons less often agreed (11%, p< 0.001) (Figure 1A). Additionally, 44% of unvaccinated individuals were neutral or disagreed that benefits of SARS-CoV-2 vaccination outweighed the illnes risk, compared to 10% in the vaccinated group, p=0.001 (Figure 1A). Minimal differences of vaccine perceptions were observed between SARS-CoV-2 positive and negative adults (Figure 1B).

Table 1. Sociodemographic Characteristics of Adults

| Characteristics                                      | Total Population |
|-----------------------------------------------------|------------------|
| Age—median (IQR)                                    | 42 (37-48)       |
| Sex, female—n (%)                                   | 61 (53)          |
| Race—n (%)                                          |                  |
| White                                               | 107 (93)         |
| Black                                               | 2 (2)            |
| Other                                               | 6 (5)            |
| Ethnicity—n (%)                                     |                  |
| Hispanic/Latino                                     | 9 (6)            |
| Occupation—n (%)                                    |                  |
| Essentiala                                          | 20 (17)          |
| Non-essential/unemployedb                           | 95 (83)          |
| Underlying medical condition—n (%)                  | 33 (29)          |
| SARS-CoV-2-positive—n (%)                           | 63 (55)          |
| ≥ 1 SARS-CoV-2 vaccine dose—n (%)                    | 85 (74)          |

*aFrontline, healthcare, grocery, etc.  
*bUnemployed/work from home

Conclusion. Although some unvaccinated individuals seemingly perceived the SARS-CoV-2 vaccine offered some protection, research should continue to evaluate the implications of vaccine hesitancy on the COVID-19 pandemic response as we prepare for the upcoming respiratory season.
We conducted a cross sectional study, which objective was to evaluate the humoral response post vaccination in Peru. The immunogenicity of this vaccine was tested in clinical trials, there are no studies that evaluated the humoral response post vaccination in Peru.

**Methods.** We conducted a cross sectional study, which objective was to evaluate the humoral immunogenicity triggered by the Sinopharm vaccine in Peruvian physicians. We collected demographic and epidemiologic data via an electronic. The SARS-CoV-2 spike protein S1/S2 antibodies were measured by chemiluminescence (Liaison®). A positive test was defined as ≥15 U/mL, which has correlation of 95% with neutralizing antibodies measured by plaque reduction neutralization test.

**Results.** 92 participants were enrolled in the study. The epidemiologic characteristics are described in Table 1. The mean level of antibodies measured at least 2 weeks from the second vaccine dose was 67.5 ± 70.5 U/mL. 85.7% of the study cohort had positive S1/S2 antibodies. In the univariate analysis, an imperfect negative correlation was found between the level of antibodies and participants’ age (r = -0.24; regression F test 5.25; p = 0.0242). A weak negative correlation was observed between the antibody titre and the time elapsed from the second vaccine dose and the day of antibody measurement (r = -0.17). A higher antibody level post vaccine was found in individuals who worked in COVID units and having previous COVID-19 infection and shorter time associated with lower antibody titers (36.9 U/mL vs 74.6; p = 0.0464). In the multivariate analysis, working in COVID units, having previous COVID-19 infection and shorter time post vaccine (table 2).

**Conclusion.** Our study showed that the time elapsed from the second vaccine dose and the day of antibody measurement, having previous COVID-19 infection and working in COVID -19 units may help to predict higher antibody titers post vaccine. Larger studies to evaluate the humoral response post Sinopharm vaccine and its clinical implications are still needed in Peru.

**Disclosures.** No reported disclosures

### Table 1. Epidemiological Characteristics

| Age (yr; mean SD) | 51.9 ± 14.35 |
|------------------|--------------|
| Male gender [n (%)] | 51.59 ± 14.35 |
| No comorbidity [n] | 47 (50.9%) |
| With comorbidity [n] | 48 (94.5%) |
| One comorbidity [n] | 36 (39.1%) |
| Two comorbidity [n] | 7 (7.7%) |
| Three comorbidity [n] | 2 (2.7%) |
| Diabetes [n] | 9 (9.8%) |
| Hypertension [n] | 17 (18.4%) |
| Immunosuppressive treatment [n] | 3 (3.3%) |
| Autoimmune disease without immunosuppression [n] | 2 (2.1%) |
| Body Mass Index (kg/m²) | 26.28 ± 3.56 |
| Work with COVID-19 [n] | 20 (22.2%) |
| Previous COVID-19 [n] | 5 (5.43%) |

| Independent variables | Coefficient (95% CI) | S 0.5 | t | p |
|-----------------------|----------------------|-------|---|---|
| Age                   | -0.3 (1.1, 0.72)     | 0.52  | 0.06 | 0.553 |
| Diabetes              | 14.6 (8.5, 57.8)     | 11.7  | 0.07 | 0.562 |
| Hypertension          | -19.0 (53.4, 15.3)   | 17.1  | 1.1  | 0.273 |
| Time from 2nd to Ab to Test | -1.2 (-2.3, 0.10) | 0.55  | 0.2  | 0.032 |
| Working in COVID-19   | 4.2 (1.1, 7.66)      | 16.3  | 2.7  | 0.008 |
| Previous COVID-19     | 8.5 (4.3, 16.6)      | 32.3  | 2.1  | 0.047 |

**Conclusion.** Our study showed that the time elapsed from the second vaccine dose and the day of antibody measurement, having previous COVID-19 infection and working in COVID-19 units may help to predict higher antibody titers post vaccine. Larger studies to evaluate the humoral response post Sinopharm vaccine and its clinical implications are still needed in Peru.

**Disclosures.** No reported disclosures

### Table 2. Multivariable linear analysis of antibody titers

**584. Phase I Placebo-Controlled Trial of COVI-VAC™, an Intranasal, Live Attenuated COVID-19 Vaccine**

Sibyl Tasker, MD, MPH, FIDSA; Daryll Bendel, MD; Melissa Bevan, MD; Steffen Mueller, PhD; Anna Kushner, PhD; Brandon Londo, PhD; Robert Coleman, PhD; Codagenix Inc., Farmingdale, New York; 2iVivo, London, UK

**Session:** P-25. COVID-19 Vaccines

**Background.** COVI-VAC™ is an intra-nasal live-attenuated SARS-COV-2 synthetic viral vaccine being developed for the prevention of COVID-19. COVI-VAC is attenuated through deletion of the furin cleavage site and introduction of 283 silent deoptimizing mutations that maintain viral amino acid sequence but result in significant changes to the viral surface that prevent SARS-CoV-2 binding to the cell. Notably, COVI-VAC includes all viral antigens and is not limited to spike. COVI-VAC has demonstrated attenuation, immunogenicity and single dose protection in both Syrian golden hamster and non-human primate models.

**Methods.** 48 healthy young adults were enrolled in an inpatient quarantine setting to one of three dose escalating cohorts and randomized to COVI-VAC or saline placebo given as nose drops, as a single 0.5ml dose or 2 doses 28 days apart. Endpoints included solicited and unsolicited adverse events, serum cytokines, viral shedding and sequence stability, mucosal and serum antibody responses and IFN ELISPOT. Subjects will be followed for 1 year for late safety events and durability of immune response.

**Results.** Dosing is complete. There has been no trend in solicited reactogenicity events, and all unsolicited adverse events reported to date have been mild. There have been no SAEs or Grade 3 or 4 events. Vaccine virus from anonymized subjects was shed at levels lower than that likely to result in onward transmission, and the deoptimization of the shedding virus remained unchanged compared to the original vaccine sequence. Unblinded data including immunogenicity will be available prior to the IDWeek meeting.

**Conclusion.** COVI-VAC appears safe and well tolerated in healthy young adults. Vaccination resulted in minimal viral shedding without sequence instability. Safety and shedding data supports continued development in a wider Phase 2/3 population.

**Disclosures.** S. Tasker (Employee, Shareholder) Daryll Bendel, MD, Codagenix Inc (Employee, Shareholder) Melissa Bevan, MD, Codagenix Inc (Scientific Research Study Investigator) Melissa Bevan, MD, Codagenix Inc (Scientific Research Study Investigator) Steffen Mueller, PhD, Codagenix Inc (Board Member, Employee, Shareholder) Anna Kushner, PhD, Codagenix Inc (Employee) Brandon Londo, PhD, Codagenix Inc (Other Financial or Material Support, contracted lab services) R. Coleman, PhD, Codagenix Inc (Board Member, Employee, Shareholder)

**585. Safety of Pfizer-BioNTech COVID-19 Vaccine in Healthcare Workers, Singapore**

Kai-Qian Kam, MBBS; Chee Fu Yang, MBBS; Chia Yin Chong, MBBS; Jia hun Li, MBBS; Karen Donceras Nadua, MD; Natalie W. Tan, MBBS; Koh Cheng Thoon, MBBS; KK Women's and Children’s Hospital, Singapore, Not Applicable, Singapore

**Session:** P-25. COVID-19 Vaccines

**Background.** On 14 December 2020, the Pfizer-BioNTech coronavirus disease 2019 (COVID-19) vaccine was granted emergency use authorization in Singapore. Healthcare workers (HCW) were prioritized to receive the vaccine. We aim to investigate the side effects and risk factors for allergic reactions in our institution.

**Methods.** All HCW vaccinations were recorded in an electronic centralized database. All reactions occurring within a 30-minute observation period post vaccination were recorded. Staff were required to report any vaccine-related medical consult including hospitalization occurring within 14 days after vaccination. Moderate/severe reactions were assessed by a medical team and determined if the reactions were probable allergic reactions and consultation with an Allergist. We extracted data from 8 Jan 2021 to 30 April 2021.

**Results.** There were 5030 and 159 HCW completed 2 doses and 1 dose of the vaccine respectively. There were 1056 HCWs (20.3%) with self-reported pre-existing allergy. There were 1056 HCWs (20.3%) with self-reported pre-existing allergy. There were 48 healthy young adults were enrolled in an inpatient quarantine setting to one of 3 dose escalating cohorts and randomized to COVI-VAC or saline placebo given as nose drops, as a single 0.5ml dose or 2 doses 28 days apart. Endpoints included solicited and unsolicited adverse events, serum cytokines, viral shedding and sequence stability, mucosal and serum antibody responses and IFN ELISPOT. Subjects will be followed for 1 year for late safety events and durability of immune response. Unblinded data including immunogenicity will be available prior to the IDWeek meeting.

**Conclusion.** COVI-VAC appears safe and well tolerated in healthy young adults. Vaccination resulted in minimal viral shedding without sequence instability. Safety and shedding data supports continued development in a wider Phase 2/3 population.

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