RINGKASAN HASIL EVALUASI
PERMOHONAN PERSETUJUAN PELAKSANAAN UJI KLINIK
VAKSIN *COVID-19* PRODUKSI MODERNA
SEBAGAI *BOOSTER* DENGAN SETENGAH DOSIS

Informasi Umum

1. Badan Litbangkes, Kementerian Kesehatan RI mengajukan persetujuan uji klinik vaksin COVID-19 produksi Moderna sebagai vaksin *booster* menggunakan setengah dosis. Vaksin uji klinik akan diberikan sebagai vaksin *booster* pada subjek yang telah mendapatkan vaksin primer secara lengkap yaitu *COVID-19 Vaccine AstraZeneca (ChAdOx1-S) dan Inactivated SARS-CoV-2 Vaccine (CoronaVac®).*
2. Vaksin Moderna telah mendapatkan *Emergency Use Authorization* (EUA) sebagai vaksin primer dan vaksin *booster* menggunakan setengah dosis terhadap Vaksin Moderna (*booster homolog)* dan menggunakan setengah dosis terhadap vaksin Pfizer dan Vaksin Astra Zeneca (heterolog).

Informasi Uji Klinik

1.	Judul protokol	:	*Immunogenicity and Safety Study of Half Dose of Moderna COVID-19 Vaccine Booster Heterologous in Adult Subjects in Indonesia*
2.	Nama Produk Uji	:	*Moderna COVID-19 Vaccine (Spikevax ®) mRNA-1273 (mRNA of SARS-CoV-2 Virus Spike Protein)* Vaksin *booster* diberikan 1 (satu) kali secara intravena. Produsen: Moderna
3.	Center/Peneliti	:	Fakultas Kedokteran Universitas Indonesia / dr. Nina Dwi Putri, Sp.A (K) *Fieldsite*: Puskesmas Cempaka Putih
4.	Sponsor	:	Badan Penelitian dan Pengembangan Kesehatan, Kementerian Kesehatan Indonesia
5.	Persetujuan Etik	:	No. LB.02.02/2/KE.010/2022 tanggal 28 Januari 2022 dari Komisi Etik Kesehatan Badan Penelitian dan Pengembangan Kesehatan (KEPK-BPPK) Kementerian Kesehatan.
6.	Desain Uji Klinik	:	*Open label trial to evaluate the immunogenicity and safety of half dose of mRNA-1273 as a booster vaccine among the fully vaccinated individuals using ChAdOx1-S and CoronaVac®*
7.	Jumlah subjek	:	200 subjects 1. 100 s*ubjects with CoronaVac® as COVID-19 vaccine primary dose and second dose more than **6 months** prior to booster dose.* 2. *100 subject with ChAdOx1-S (COVID-19 Vaccine AstraZeneca) as COVID-19 vaccine primary dose and second dose within 6–9 months prior to booster dose.*
8.	Tujuan uji klinik	:	***Primary objective:*** *1. To evaluate the antibody titres before and 28 days (+7 days) after booster dose with half booster dose of mRNA-1273* *2. To compare the immunogenicity after booster dose between AstraZeneca and Sinovac priming group* ***Secondary Objectives:*** *1. To evaluate the rate and severity of the reactogenicity within 24h, one week and one month of each priming (AstraZeneca and Sinovac) vaccine group* *2. To evaluate T-cell-CD4 and CD-8 to SARS-COV-2*

9. Kriteria Eligibilitas :

Inclusion Criteria:

1. *Population aged 18 years and above who had completed the primary series of SARS-CoV-2 vaccine with CoronaVac® more than 6 months prior enrolment to the study or with ChAdOx1- S within 6-9 months prior enrolment to the study.*
2. *Voluntarily participate in the study, signed written informed consent form and willing to comply with the instructions of the investigator and the schedule of the trial.*

Exclusion Criteria:

1. *Inoculated with third dose of SARS-CoV-2 vaccine*
2. *Participating or planning to participate in other clinical trial*
3. *Fever (temperature > 37.5℃, measured with infrared thermometer/thermal gun), upper respiratory tract infection symptoms such as sneezing, nasal congestion, runny nose, cough, sore throat, loss of taste chills and shortness of breath within 72 hours before enrolment.*
4. *Blood pressure > 180/110 mmHg.*
5. *Confirmed history of Covid-19 within one month prior to study.*
6. *History of serious allergy to any vaccines or vaccine ingredients.*
7. *Suffering from the following disease:*
    a. *Uncontrolled autoimmune disease such as lupus.*
    b. *History of uncontrolled coagulopathy or blood disorders, immune deficiency, and received blood derived product/transfusion within 3 months prior to enrolment.*
    c. *Received immunosuppressant therapy such as corticosteroid and cancer chemotherapy*
    d. *Uncontrolled chronic disease, such as severe heart disease, asthma exacerbation*
    e. *History of uncontrolled epilepsy (within the last 2 years) or other progressive neurological disorders, such as Guillain-Barre Syndrome*
8. *Received any vaccination within 1 month before and after booster with study vaccine.*
9. *Pregnant woman*
10. *Aged ≥60 years old suffering:*
    a. *Difficulty in climbing 10 steps of stairs*
    b. *Frequently experiencing fatigue*
    c. *Difficulty in walking 100–200 m or*
    d. *Having at least 5 comorbidities (hypertension, diabetes, cancer, chronic lung disease, heart attack, congestive heart failure, chest pain, asthma, joint pain, stroke, and kidney disease).*

10. Luaran Uji Klinik/ Endpoint :

Primary Evaluation Criteria

Reactogenicity will be measured using a diary card to evaluate systemic and local side effects after vaccination for 24 hours, seven days and 28 days post-vaccination.
Antibody and cellular immunity will be measured using serology tests at 28 days after the booster dose vaccination.

Secondary Evaluation Criteria

Safety:

- *Incidence rate and intensity of solicited and unsolicited adverse events within 24 hours after booster dose vaccination.*
- *Incidence rate and intensity of adverse events within 7 days after booster dose vaccination.*
- *Incidence rate of and intensity of adverse events within 28 days after booster dose vaccination.*
- *Incidence rate of serious adverse events within 28 days after booster dose vaccination.*

Immunogenicity:

- *Seropositivity rate, seroconversion and GMT of SARS-CoV-2 antibody titer at 28 days after booster dose vaccination.*
- *Seropositivity rate, seroconversion and GMT of neutralizing antibodies at 28 days after booster dose vaccination.*
- *Seropositivity rate, seroconversion and GMT of T-cell-CD4 and CD-8 to*

Ringkasan Hasil Evaluasi

Badan POM telah melakukan evaluasi protokol uji klinik Vaksin *COVID-19* Produksi Moderna yang didukung oleh tim ahli melalui rapat pada tanggal 19 Januari 2022.

Vaksin Moderna telah mendapatkan *Emergency Use Authorization* (EUA) sebagai vaksin *booster* heterolog namun belum termasuk untuk vaksin primer Sinovac dengan platform inactivated. Terdapat kebutuhan data dan informasi respon imun subjek apabila vaksin COVID-19 yang telah mendapatkan EUA diberikan sebagai booster dengan setengah dosis pada orang yang telah mendapatkan vaksin primer Astra Zeneca dan Sinovac sebagai bahan pertimbangan kebijakan pemerintah dalam vaksinasi nasional untuk mencegah penularan COVID-19, mengingat kedua vaksin primer tersebut banyak digunakan pada masyarakat.

Desain uji klinik yang diajukan telah memadai untuk menilai apakah vaksin booster Moderna setengah dosis dapat memberikan respon imun yang baik jika diberikan pada subjek yang telah mendapatkan vaksin primer untuk COVID-19 produksi Astra Zeneca atau vaksin primer produksi Sinovac. Vaksin uji klinik yang akan digunakan telah memenuhi persyaratan mutu.

Keputusan

Pelaksanaan uji klinik dengan protokol di atas disetujui melalui penerbitan Persetujuan Pelaksanaan Uji Klinik (PPUK) Nomor RG.01.06.1.1.02.22.12 tanggal 2 Februari 2022.