Newsletter

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Technical webinar on laboratory testing for COVID-19

The captioned technical webinar on laboratory testing for COVID-19 was convened on 28 September 2020, aimed to assist laboratory scientist in analytical work for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that causes COVID-19 outbreak.

In the national surveillance for COVID-19 in Indonesia, it started testing by 12 laboratories in March 2020, now extended to approximately 270 laboratories from public and private entities. Fifteen (15) laboratories of the Badan POM has also joined the national surveillance, to fullfill the gaps of testing capacity in provinces which have lack of adequate PCR testing numbers.

Amidst the increase of infected persons over months, the laboratory scientists have made efforts to reach the benchmark of testing numbers in the entire country, as recommended by WHO. In their work, it is indispensable to ensure accuracy of testing results by proper analytical practices in view of their qualities and liabilities. It is also highly necessary to follow safe handling of testing samples, for the purpose of protecting laboratory scientists and preventing unintended spread of infectious materials to surrounding environments.

Thus, to this webinar, JICA invited speakers from three institutes in Japan and Indonesia. One is the National Institute of Infectious Diseases (NIID), which is a central responsible organization for COVID-19 surveillance in Japan. The others are Universitas Airlangga (UNAIR) Surabaya, and Institut Pertanian Bogor (IPB) University. These Universities have been involved in the national surveillance since the beginning, and two are members of the COVID-19 Response Acceleration Task Force.

In opening the webinar, Mr Shunsuke Takatoi, Deputy Representative of JICA Indonesia Office, in his remark, recalled its long history of bilateral cooperation between Japan and Indonesia for public health sectors, and emphasized the importance of this technical webinar as part of their solidarities to tackle the COVID-19 outbreak.

Dr Kiyoshi Tanabayashi, NIID

Dr Kiyoshi Tanabayashi, DVM. PhD, former Director for the Division of Biosafety Control and Research, NIID provided overall biosafety principles and management practices required to laboratories in dealing with infectious materials including SARS-CoV-2.

He emphasized that proper handling and

management, in addition to equipment and laboratory structure, were incredibly important because numbers of laboratory failures were derived from human errors.

Prof. Maria Inge Lusida, dr., M.Kes.,Ph.D.,Sp.MK(K), Institute of Tropical Disease – UNAIR, explained critical points in laboratory analytical practices and stated that key factors, which might influence test performance, could be arising from sample collection, sample treatment, including condition of infected patients. She highlighted that false positives/negative results in SAR-CoV-2 testing are attributed to conceivable factors caused by PCR testing kits, equipment, and human skill.

Prof. Dr Maria Inge Lusida, UNAIR

Dr drh. Joko Pamungkas, MSc, from Faculty of Veterinary Medicine, and Dr Uus Saepuloh, SSi, MBiomed, from Pusat Studi Satwa Primata, LPPM–IPB University, focused on diverse factors that might be influencing quality of testing results and referred to different characteristics of gene sequences targeted by various PCR testing kits currently available on market.

Dr drh. Joko Pamungkas, IPB University

He also implied potential analytical faults caused by gene mutation of SARS-CoV-2 over the outbreak of COVID-19 in different regions and countries. As RT-qPCR testing requires high technical literacy and skills, it was suggested well - trained scientists should be involved in analytical work.

Dr Uus Saepuloh, IPB University

Approximately 250 scientists attended the webinar.