

Research Internship In Airlangga University, Indonesia

Kobe University Graduate School of Health Sciences

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Introduction

Last year, the patients infected with dengue virus domestically were found for the first time in last 70 years in Japan. Eventually the number of the patients became more than 150 people. I belong to Kobe University Graduate School of Health Sciences and usually perform research on HIV in Japan. In this time, I decided to participate in this program because I have been interested in this prevalence. Dengue fever is prevalent in tropical or subtropical region such as Southeast Asia, South and Central America, and Africa. It is estimated that 1 billion people suffer from dengue fever around the world every year and 250 thousand people experience more severe symptom called dengue haemorrhagic fever (DHF). However, any vaccine against dengue virus has not been approved yet. There is no specific drug or treatment unfortunately. Dengue fever is one of the endemic disease in Indonesia and patients with dengue is increasing. It is said that some medicinal plants which we can harvest in Indonesia might have a potential of treatment for dengue. Therefore I intended to study the fraction of the plants. Indonesia is consisted with many islands and has different types of culture from Japan. At the same time, I thought that I could learn about Indonesian culture and life style. Airlangga University established Institute of Tropical Disease (ITD). I studied about dengue virus at ITD for 2 months.

Activity of Research

Dengue group in ITD has many kinds of research theme. I mainly studied about "To seek a compound which has anti-dengue virus activity". The research group which was established in a previous SATREPS project provided me 20 kinds of extracts which was made

from medicinal plants, and then I started investigating the anti-dengue activity in these extracts. Because I usually studied about HIV in Japan, it was hard for me to conduct dengue experiment at first. In addition, my knowledge of dengue virus was quite poor. Nevertheless, local researchers often helped me and gave a lot of advice to me.



Picture 1) exterior of ITD



Picture 2) view from dormitory

We discussed details of our research each other to conduct dengue experiment. It was very precious experience for me. Other experiments, (1) epidemiological survey of dengue or dengue-associated virus, (2) establishment of human anti-dengue neutralizing monoclonal antibody, (3) investigation of mechanism of developing severe symptoms, (4) control of mosquitoes, and so on, are also studied by dengue group. I could not accompany group member to collect serum sample but I could watch a series of experiments from extracting virus RNA to analysing viral gene sequence. And then, in order to collect mosquito larva, I visited to mangrove forest with students who learn entomology. I was taught that water pool such as mangrove forest is a suitable point for mosquitoes to breed. After that, I had them show inside of entomology laboratory. Many samples of mosquito were displayed there and they taught me how to identify

mosquito strains. If I was in Japan, I could not experience such great opportunity. My presentation about dengue reserach was held at the last part of my stay. I spoke only English during presentation. It was first time for me to introduce something in English.



Picture 3) collecting larva



Picture 4) Observing mosquitoes

Daily life in Indonesia

Regarding my daily life in Indonesia, I enjoyed Indonesian foods such as Nasi Goreng and sweet fruits. Many kinds of fruits is available at street stand or supermarket because of tropical climate. In addition, I played football with my friends on holiday. I started playing football in my childhood and continued it until undergraduate student. However, I played football in foreign country for the first time then. I was surprised that we can become more closer each other through playing football if I am a foreigner in a certain region.



Picture 5) Indonesian food



Picture 6) tropical fruits

Through this program

I lived in different environment from Japan for 2 months and experienced real Indonesian life, culture, religion and language. I think I could grow into a robust person through this program. I really struggled at first, but could get used to living little by little because local people are very kind and always helped me. My life in Indonesia was surprising and amazing experiences to me. I will never forget this stay. I succeeded to increase my communication skill, but thought that my efforts to solve problems were not enough. I must make use of this experience in my future life.



Picture 7)

Picture with ITD members
and staff

Finally, I would like to extend my thanks to the persons concerned who supported my stay.