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# ICTMHS

International Conference on Translational  
Medicine and Health Sciences

Semarang, October 27<sup>th</sup> - 28<sup>th</sup> 2017



ABSTRACT BOOK

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Organized by Faculty of Medicine Diponegoro University



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*Department Clinical Parasitology/ Center for Biomedical Research (CEBIOR), Faculty of Medicine, Diponegoro University*

**Rahajeng Tunjungputri, MD, PhD**

*Department Clinical Parasitology/ Center for Tropical and Infectious Diseases (CENTRID), Faculty of Medicine, Diponegoro University*

**Muflihatul Muniroh, MD, PhD**

*Department of Physiology/ Center for Biomedical Research (CEBIOR), Faculty of Medicine, Diponegoro University*

**Nani Maharani, MD, PhD**

*Department of Clinical Pharmacology/ Center for Biomedical Research (CEBIOR), Faculty of Medicine, Diponegoro University*

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First of all, thanks to **Almighty Allah**, the most merciful, beneficent and compassionate, for His blessing that this conference could be held today. All respect and greeting to the **Holy Prophet, Muhammad** ﷺ who guided us of Allah and lead us to Islam rahmatilil alamiin.

I would like to express my greatest gratitude to Prof. Dr. Yos Johan Utama, S.H., M.Hum; Rector of Diponegoro University, Prof. Dr. dr. Tri Nur Kristina, DMM., M.Kes.; Dean of Faculty of Medicine Diponegoro University, Prof. Dr.rer.nat Heru Susanto, S.T., M.M., M.T.; Director of LPPM, for all of their kind supervision during the preparation of this event. I would like to express my sincere gratitude to dr. Ahmad Zulfa, Sp.And, Ph.D, Prof. dr. Sultana MH Faradz, PhD, Prof. Dr. dr. Hussein Gasem, Sp.PD, Prof. Dr. dr. Suprihati, Sp.THT, especially to my really partner dr. Nani Maharani, M.Si.Med, Ph.D and all of the committee members for all of your hard work, kind help, and best effort as a solid team work, by which this event can be held successfully today.

I would like to thank all of the honorable ICTMHS speakers for your willingness to come and give lectures here, and all of participants from various institutions in the world.

Welcome to **International Conference on Translational Medicine and Health Sciences (ICTMHS)**. It is a great pleasure to have all of you here in ICTMHS, Semarang Indonesia, on this October 27-28, 2017.

Translational medicine, also referred to as translational science, as *an interdisciplinary branch of the biomedical field supported by three main pillars: bench-side, bedside and community*, is a rapidly growing discipline aiming to improve the healthcare systems by “effectively translate the new knowledge, mechanism, and techniques, generated by advances in basic science research into new approaches for prevention, diagnosis, and treatment of diseases”. Research in the field of translational medicine is pivotal especially in finding scientific breakthroughs in the field of medicine, hence this type of research requires considerable amount of strategies, infrastructures and time.

Encouraged by the importance of this research field, Faculty of Medicine, Diponegoro University organize an international conference ICTMHS to promote educational and science development particularly on medical science, as well as to improve the research development and the growth of international scientific publications. Through ICTMHS, we hope to contribute in introducing and educating the scientific community on the nowadays advance in medical sciences.

ICTMHS in this year focuses on some highlight topics which are Infectious Disease, Immunology, Drug Discovery, Degenerative, Cardio – Metabolic Disease, Neuroscience, Oncology, Endocrinology, Holistic Nursing Science, and Nutritional Approach in Disease Prevention, which have been of interest to hundreds researcher and clinician that want to share their interesting research problems.

As a major goal of this event, we hope that it can be an excellent chance to discuss interesting ideas and develop fruitful project in the future, network opportunities with old and new colleagues, coordination new partnerships which advance collaboration either about the research field or not, as well as the careers of all participants.

This first ICTMHS is held on Semarang, a fascinating city with rich history and tradition of Java. It is a beautiful city, located on Central of Java, near Borobudur temple; one of Wonders of the World.

Please enjoy your participation in ICTMHS and have a great experience during your stay in Semarang.

Wish you the best in all your work.

**Muflihatul Muniroh, MD, MSc, Ph.D**

Organizing Chairperson

ICTMHS 2017



Praise to the God Almighty for the International Conference on Translational Medicine and Health Science (ICTMHS) 2017, Faculty of Medicine Diponegoro University and I are very excited for this event and we welcome to all of the participants and speakers to this event. The special acknowledgement, I address to the distinguished speakers Prof. dr. Soenarto Sastrowijoto, Sp.THT from Gadjah Mada University - Indonesia, Prof. Andre van der Ven from Radboud University – The Netherlands Prof. Dr. Johnson Stanslas from University Putra – Malaysia, Prof. Randi Hagerman, MD, Ph.D from University of California Davis – USA, Prof. Frank de Jong, MD, Ph.D from Erasmus University Medical Center – The Netherlands, and Prof. Gerard Pals, Ph.D from VUMC Amsterdam – The Netherlands. I am very grateful for your willingness to attend and share your knowledge to us.

Faculty of Medicine Diponegoro University has a vision to be the centre for medical and health sciences, we would like to introduce and educate the public about medical research development from around the world, especially on the field of Infectious Disease, Immunology, Drug Discovery, Holistic Nursing Science, Degenerative, Cardio – Metabolic Disease and Neuroscience. And as a part of Diponegoro University, we would like to promote our goal as the World Class University, so I hope that from this event we will increase the number of Faculty of Medicine and Diponegoro University's international publications as well.

I wish that this event will give a big contribution on sharing knowledge and information about medical and health sciences for the academic members, researchers and all of the participants.

I also would like to appreciate to all of the committee members for their effort and hard work so that this event can happen.

Once again, welcome to the International Conference on Translational Medicine and Health Science (ICTMHS) 2017, I hope that all of you enjoy your stay at Semarang and we will see you again on the next event.

**Prof. Dr. dr. Tri Nur Kristina, DMM, M.Kes**

Dean



*Assalamualaikum Warahmatullahi Wabarakatuh*

It's a great pleasure and honour for our University to be the host of International Conference on Translational Medicine and Health Sciences. The special acknowledgement, I address to the distinguished speakers Prof. dr. Soenarto Sastrowijoto, Sp.THT from Gadjah Mada University - Indonesia, Prof. Andre van der Ven from Radboud University – The Netherlands Prof. Dr. Johnson Stanslas from University Putra – Malaysia, Prof. Randi Hagerman, MD, Ph.D from University of California Davis – USA, Prof. Frank de Jong, MD, Ph.D from Erasmus University Medical Center – The Netherlands, and Prof. Gerard Pals, Ph.D from VUMC Amsterdam – The Netherlands.

Thank you for the valuable time to deliver knowledge and share scientific information at this conference. I believe that this opportunity will provide the valuable information for us and deliberate some new research ideas for participants of this conference.

For all the participants, I would also like to welcome you at this conference. The origin of the conference theme is reflected from the idea of our Center of Excellence (CoE) which was established in 2012 representing our priority as a research university. Since the declaration of Diponegoro University as a research university, the main theme of every research result will be enhanced to the level of international benchmarking. Diponegoro University, has strong human resources and research background related to translational medicine and health sciences. It is also supported by laboratory such as Center for Biomedical Research.

Translational medicine is a rapidly evolving biomedical research aimed at finding new diagnostic tools and treatments with a multidisciplinary approach, with a bench-to-bedside approach, which will be applied for the benefit of society. Translational research is an important aspect in research, especially in helping to find scientific breakthrough in the field of medicine and use it as much as possible for the patient's health and to the general public. These interesting issues need to be discussed in this conference by sharing research finding and ideas. I am grateful to see that this conference has enormous responds from the participants either from domestic or from other countries. Number of publication indexed by reputable database has been set as an indicator for world university rank including Indonesia. Therefore, Diponegoro University also encourages all scientists and academic staffs to increase their publication records in these international reputation journals.

Currently, Diponegoro University is in the 6th position among universities in Indonesia for the number of publications in reputable International journals. I sincerely express appreciation to the organizing committee for their effort to realize this conference. By the end of my short welcome address, I hope our foreign guests take advantage of their stay here to enjoy our beautiful city, Semarang. Once again, it is my great pleasure to welcome you all to the International Conference on Translational Medicine and Health Sciences. I wish you a pleasant two fully scientific days of conferences and I hope you can get a fruitful share with other scientists on current developed knowledge and perhaps seeking for potential collaboration of your interested field.

*Wassalamualaikum Warahmatullahi Wabarakatuh*

Thank you for your kind attention.

**Prof. Yos Johan Utama**  
Rector

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## The effectiveness of *Merremia mammosa* (Lour.) extract fractions as diabetic wound healers on diabetic rat model

Elly Nurus Sakinah<sup>1</sup>, Evi Umayah Ulfa<sup>2</sup>, Ancah Caesarina Novi Marchianti<sup>3,\*</sup>

<sup>1</sup>Department of Pharmacology, Medical Faculty, University of Jember, Kalimantan street No. 37, Jember, Indonesia, 68121

<sup>2</sup>Department of Microbiology and Pharmaceutical Biotechnology, Pharmacy Faculty, University of Jember, Kalimantan street No. 37, Jember, Indonesia, 68121

<sup>3</sup>Department of Public Health, Medical Faculty, University of Jember, Kalimantan street No. 37, Jember, Indonesia, 68121

\*Corresponding email address: [ancah@unej.ac.id](mailto:ancah@unej.ac.id)

### ABSTRACT

**Introduction:** Prevalence of diabetic ulcers in Indonesia ranges from 17.3 to 32.9% of hospitalized diabetes patients. Approximately 14-24% of them cannot be healed and require amputation. Treatment of diabetic ulcers is quite difficult, because of the failure of blood vessels and bacterial infection. *Merremia mammosa* (Mm) (Lour.) that contains flavonoids are thought to have potential antioxidant that helps the wound healing process. This study aimed to determine the effect of Mm(Lour.) extract fractions in wound healing process of diabetic rat model and searching the most potent fraction in 25 mg effective dose. The dose was proven effective in other plant fraction and smaller dose in our preliminary study was ineffective.

**Method:** This experimental study used twenty-five male Wistar rats that were made diabetic by intraperitoneal injection of 40 mg/kg body weight streptozotocin. Rats divided into five groups, which consist of positive control (gentamicin 0.1%), negative control (aquadest) and Mm(Lour.) dose 25 mg each of n-hexane, ethyl acetate and water fraction. Wound was made by Morton method and treatment applied on the wound every other day for 10 days. Wound healing process were observed by calculating the percentage of reduction in wound size. Data were described and analyzed further using appropriate statistic tools.

**Results:** The percentage of reduction in wound size comparison at day 11 of the incision showed significant different in every fraction when compared with negative control and no significant different when compared with positive control. This study showed that among the three factions, water fraction showed the fastest healing rate (93.4 %).

**Conclusion:** Mm (Lour.) extract fractions significantly accelerated the process of wound healing in diabetic rat model and the most effective fraction was water fraction. Therefore, it is potential to be developed further as a topical drug.

**Keywords:** *Merremia mammosa* (Lour), wound healing, diabetic ulcers