Welcome remark
The Chairman of GHI Conference

Dear all participants and invited speakers

It is my privilege and pleasure, on behalf of Dean of Faculty of Medicine and Rector University of Mataram, to welcome you all to the 1st International Conference on Global Health and Innovation. This conference is held by the Faculty of Medicine Universitas Mataram with the support of Chungnam National University, Indonesian Doctor Association of West Nusa Tenggara, and Indonesia Pharmacist Association. This conference is in conjunction with the 57th Dies Natalis of Universitas Mataram and 16th Dies Natalis of the Faculty of Medicine Universitas Mataram.

The theme of the conference this year, “Multiple Burden of Diseases in the Developing Countries” reflects the current health situation faced by Indonesia and other developing countries, where due to the demographic and socio-economic transition and the increasing trend of non-communicable diseases, more constraints are imposed to our health systems in dealing with the pre-existing burden of communicable diseases. This is a challenge that calls out further action and innovation.

This conference is presenting you with internationally recognized, multidisciplinary expert speakers from Indonesia and abroad to share their knowledge in regards to the current global health concerns of the multiple burdens of diseases in developing countries. We have 100 participants with 53 abstract.

To further disseminate the scientific endeavors of researchers who have submitted their study to be presented in this conference, we are partnering with Bali Medical Journal, an experienced and internationally-indexed journal in Indonesia.

Conferences such as this provide a valuable opportunity for health professionals, researchers and students to share knowledge, ideas, and experiences. It is also a forum for young and senior researcher to connect and explore potential future collaboration.

We would like to thank the provincial government of West Nusa Tenggara, Indonesian Doctor Association, Indonesia Pharmacist Association and all sponsors for the supports.

I am sure you will have fruitful and rewarding exchanges during this conference. I wish you every success with this important conference and I look forward to learning about the outcome. We once again welcome you to Lombok and we hope that you are enjoying this conference. Thank you.

Dr. E. Hagni Wardoyo, Sp.MK
The Chairman of GHI Conference
Welcome Remark
by the Dean of the Faculty of Medicine
Mataram University

We are very delighted to welcome all keynote speakers and participants to the 1st International Conference on Global Health and Innovation held in Lombok, Indonesia by the Faculty of Medicine Mataram University. This year the theme of this conference is the “Multiple Burden of Diseases in the Developing Countries”. Global health encompasses a wide range of diseases including communicable and non-communicable diseases which adds the daunting health challenges already facing many developing countries, including Indonesia.

The aim of this conference is to support a multidisciplinary platform for scientific exchanges on multidimension of global health that we are currently facing. This conference provides a unique multidisciplinary setting for all professionals, researchers and students with a common interest in global health to discuss, debate, inform and educate themselves about this evolving disease landscape.

Our theme, “Multiple Burden of Diseases in the Developing Countries” covers a wide range of global health concerns from infectious diseases to cancer and also pharmaceutical aspects associated with global health. We are also thrilled to have keynote speakers from multiple countries and also a wide range of participants. We hope you will enjoy the program and the scientific discussions, and that the knowledge gained and discussed during these days in Lombok will be of our importance. It is also our hope that new and good relationships and networking will be established between the participants.

Lastly, I would like to thank the organizer committee for their effort, the sponsors for their support and all those who have contributed to the success of this conference. This is the first International Conference held by our faculty and we hope many more to come. I wish all presenters and participants a fruitful seminar and I hope that your visit to this event and to Lombok will be a pleasant experience.

Sincerely Yours,

dr. Hamsu Kadriyan, M.Kes, SpHTH-KL(K)
Biography of Keynote Speakers

Professor Dr. Cissy Kartasasmita Sp.A (K)

Department of Child Health, School of Medicine, Universitas Padjadjaran, Bandung, Indonesia

Dr. Kartasasmita earned her MD from the Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia (1973), and her MSc (1990) and PhD (1993) in Medical Sciences from the University of Leuven, Belgium. She completed a fellowship in pediatric pulmonology at Keio University, Tokyo, Japan (1988), and participated in a course on Tropical Epidemiology at Mahidol University, Bangkok, Thailand (1988). Research conducted by Dr. Kartasasmita includes a study on Epidemiology of Influenza, Human Animal interface during the Outbreak of HPAI, Epidemiology of RSV and other respiratory virusis, Burden of Invasive Pneumococcal Disease in Indonesia, Nasopharyngeal carriage of Pneumococcus, Asthma, Otitis Media and hearing impairment in school children, Vaccinology and Tuberculosis.

She is now the chairperson of the Vaccination Task Force Group of the Indonesian Pediatrician Society, and the Indonesian Influenza Foundation (IIF). She is also a member of the Asia-Pacific Alliance for Control of Influenza (APACI); Asian Strategic Alliance for Pneumococcal disease Prevention (ASAP); Indonesia Technical Advisory Group on Immunization (ITAGI), Congress of International Pediatric Pulmonary (CIPP) advisory group and Network for Education and Support in Immunisation (NESI). Since June 2017 she became the Director of Center for Collaborative Research on Acute Respiratory Infections (CCR-ARI), SHERA/USAID, Faculty of Medicine, Universitas Padjadjaran, Bandung. She is often invited to speak at various scientific meetings in Indonesia and abroad. She has published a number of journal articles and is involved as contributor for local textbooks on her expertise.

Prof. Dr. Kobayashi

Department of Global Health, School of Health Sciences, University of the Ryukyus, Japan

Prof. Dr. Kobayashi has more than 20 years’ experience in global health and is the author of more than 90 publications in international scientific journals. He has made contribution in strengthening the capacity of infectious disease control and school health in low- and middle-income countries under the Japanese Official Development Assistance (ODA) program with a point of views both of a practitioner and a researcher. He received 3rd merit of labor from the Lao government in 1999 for making contribution in malaria control. From 2000, he had joined the core member of Hashimoto Initiative, mentioning the importance of deworming and other infectious disease program in school. He made numerous contributions in the human resource development for policy management in Asia and African countries. He has been a chair of Japan consortium for global school health research (JC-GSHR), a think-tank and the focal point of Japan for global promotion of school health, since 2008. He is currently head of Department of Global Health, School of Health Sciences, University of the Ryukyus, and also program leader of Okinawa Global Health Program in this school (founded in October 2015) to promote human resource development contributing in the public health issue in the region.

He has started the research project for combating vector borne diseases and zoonosis as a project leader supported by Okinawa prefecture’s government. For his research in school health-based disease control, which helped decreasing malaria incidence in Southeast Asia, he received “the Zero Malaria Award” from No More Malaria Japan in 2016 and “Aikawa Masamichi Award” from Japanese Society of Tropical Medicine in 2017. His contribution in the practice of global health, such as promoting the school health in developing countries and assisting to Myanmar migrant, was granted with the encourage award from Ooyama foundation in 2013.
ABSTRACT

Professor (Em) Hisayohi Mitsuda
Emeritus Professor, Faculty of Sociology, Bukkyo University, Kyoto, Japan

MITSUDA is an emeritus professor, Faculty of Sociology, Bukkyo University, Kyoto and acts as a representative of Malaria Front Fund, Kyoto Japan in 2019. Born in 1948, he proceeded to Doctor of Agriculture from Kyoto University in 1987. Since 2006 he has been engaged in the Malaria Control Program at Faculty of Medicine, Mataram University, Lombok, Indonesia. He published the related books, i.e., MALARIA CONTROL AS A GLOBAL CHALLENGE (2009) and SUSTAINABLE LOMBOK: Rich Nature and Rich People in the 21 Century (2005) by Mataram University Press.

Mitsuda was a pioneer in Japanese Environmental Sociology, and played a particularly important role in bringing Western perspectives to Japanese scholars. He was appointed to the editorial boards of important environmental social science journals such as Society and Natural Resources and Capitalism Nature Socialism. It was a rare honor in the early days of these journals for an Asian scholar to serve on their editorial boards.

What has made Mitsuda such a unique professor is his commitment to applying his sociological skills to the world outside the university and academia, especially in efforts to help people in grass-roots’ struggles against social and environmental problems. Early in his career, for example, he was very active in the battle to protect the Shiretoko Nature Sanctuary in Hokkaido, and thanks to the efforts of Mitsuda and fellow environmentalists the sanctuary is now a UNESCO World Heritage Site. Mitsuda’s career is marked by continual efforts to help ordinary people solve problems and improve their quality of life. He has worked in well over a dozen different nations, and these days his focus is on helping fight Malaria in Indonesia. This is clearly a very worthy effort, and one that he will continue after his retirement.

“In short, Hisayoshi Mitsuda has had an excellent career both as a traditional scholar making important academic contributions as well as a scholar-activist making important contributors in many peoples’ lives by helping them solve difficult problems,” addressed by Riley E. Dunlap, a founder of American Environmental Sociology, and Regents Professor of Sociology and Dresser Professor Emeritus, Oklahoma State University as his complimentary speech at Mitsuda Retirement Lecture, Bukkyo University, January 18, 2019

Professor Mulyanto
Faculty of Medicine, Mataram University, Indonesia

Professor Mulyanto is a Professor at the Faculty of Medicine Mataram University. He has been a lecturer at Mataram University since 1976. Professor Mulyanto served as the Rector of Mataram University in 1997 – 2001 and continued as the Dean of the Faculty of Medicine Mataram University from 2007 until 2015.

Professor Mulyanto is known as a prominent researcher in Indonesia and his main work is on Hepatitis. Amongst many of his innovations in infectious diseases were: development of screening method for Hepatitis B through Reverse-Passive Hemagglutination (1985), anti-HCV Dipstick for diagnosis of Hepatitis C (1996) and also detection kit for Malaria and HIV virus with immunochromatography method (2007 and 2017). Through his work and dedication on Hepatitis in Indonesia he has been given numerous prestigious award including: Habibie Award in the field of Medicine and Biotechnology (2000), Achmad Bakrie Award for under the category for Medicine (2008) and Academic Leader Award by the Indonesian Ministry of Research, Technology and Higher Education of (2017). He has published numerous research articles throughout his career and continues his passion in research.
ABSTRACT

Professor Alexander A.W. Peters, PhD, MD

Leiden University Medical Center Department of Gynecology, Netherlands

Professor Alexander A.W. Peters, PhD, is a Professor in Gynecology and specialized in Gynecologic Oncology. He is currently the International Chairman for the Female Cancer Program (FCP). This program supports the fight against cervical cancer in developing countries. Together with local partners in Surinam, South Africa and Indonesia, the FCP is setting up cost-effective screenings, awareness and research programs in low-resource areas.

During the last 10 years he has obtained numerous fundings and grants from different scientific, governmental (national and international) and public organizations.

Amongst these fundings and grants are Officer Palm of Honor Medal (President of Surinam, 2008), Hector Treub Medal (NVOG, 1999), Betty Bos/Olijf Medal (Olijf Foundation, 1996) and Best Teaching Performance clinical phase in Obstetrics and Gynecology (LUMC, 2010).

Professor Alexander A.W. Peters, PhD has held aby significant roles, amongst the many positions he has held are Consultant Foundation Medical Helsecare in Third World countries, Member of Dutch Society “Cervix-uteri”, Editorial Board Member of the International Journal Psychosomatic Obstetrics & Gynecology, Consultant for Gynecological Oncology in West Netherland (I.K.W.) and Member executive committee Society of Psychosomatic Obstetrics & Gynecology.

He is also a visiting professor in various institutions. To name a few are as visiting professor in Surinam (on a yearly basis), visiting professor in South Africa (on a 3-yearly basis), teacher of the Institute of Tropical Medicine in the “Haven Hospital” Rotterdam until 1998, teacher in transcultural sexual aspects in the Department of Anthropology, University of Leiden. He has also published over 100 articles in scientific journals. He continues to work in tackling the concern of cancer amongst female in the developing world.

Dr. Hamsu Kadriyan, M.Kes, SpTHT-KL (K)

Dean of the Faculty of Medicine, Mataram University, Indonesia

Hamsu Kadriyan, MD, ENT-HN specialist was born in Lombok and graduated his medical doctor from Hasanudin University. He then pursued his specialization in Ear, Nose and Throat and also obtained a Master’s degree from Gadjah Mada University. Dr. Hamsu Kadriyan furthered his study as an Oncologist consultant by the Indonesian College of ENT-HNS.

In his early career as a medical doctor he served as a physician in Kopang Community Health Centre from 1998-2001. He then joined the Faculty of Medicine Mataram University as a lecturer since 2001. Dr. Hamsu Kadriyan was the Vice Dean of Administration and Fund (2009-2015) and currently is the Dean of the Medical Faculty Mataram University. He has published numerous articles in scientific journals as first author or co-author. Published works are specifically related to malignancy associated with nasopharynx which encompasses the epidemiology and also identification of novel diagnostic marker and various prognostic factors.
ABSTRACT

Professor Guang-Ho Cha, Ph.D
Dept. of Infection Biology, College of Medicine, Chungnam National University Daejeon, South Korea

Professor Guang-Ho Cha is a Professor in the Department of Infection Biology, College of Medicine, Chungnam National University Daejeon, Korea. He currently serves as the Vice Director of the Research Institute of Medical Science, College of Medicine, Chungnam National University and the Editorial board member of “Genes and Genomics”. He conducted his Postdoc in Prof. Juan Botas’ Lab under the Department of Molecular Human Genetics, Baylor College of Medicine, USA and also another PostDoc in Prof. Jonglyeong Chung's Lab under the Department of Biological Science, KAIST, Korea. Professor Guang-Ho Cha obtained his PhD in Genetics in 2001 from the School of Biological Science, Seoul National University.

His field of interest is in the Characterization of host signaling pathway manipulation mechanism by microbes (especially for *Toxoplasma gondii*, a protozoan parasite) or by their antigens for evading of host immune defense system. He is also looking into the *in vivo* and *in vitro* model generation for human diseases including infectious diseases or neurodegenerative diseases (Parkinson’s disease and Huntington’s disease). He is the author and co-author of numerous research publication.

Professor Chang-Hwa Song
Deputy Dean for Research Affair, College of Medicine Chungnam National University Daejeon, South Korea

Professor Chang-Hwa Song is currently the Deputy Dean for Research Affair, College of Medicine, Chungnam National University, Daejeon, South Korea and the Deputy Head, BK21 plus CNU Biomedical Convergence Program, Chungnam National University, Daejeon, South Korea. He also serves as the Professor, Dept. of Microbiology, College of Medicine, Chungnam National University, Daejeon, South Korea. Professor Chang-Hwa Song obtained his PhD from the College of Medicine, Chungnam National University in 2002, he graduated from the College of Natural Science, Chungnam National University with a M.S in 1993 and a B.S. in 1991. He conducted a Postdoctoral Fellow, Dept. of Pediatrics, Immunology and Rheumatology, University of California, San Francisco, CA from 2007 – 2009.

He has held many significant postion throughout his career, amongst the many are as Chair, Dept. of Microbiology, College of Medicine, Chungnam National University, Daejeon, South Korea (2012 – 2016), Deputy Head, Leaders in Industry-university, Cooperation (LINC), Chungnam National University, Daejeon, South Korea (2015) and Head, Dept. of Medical Science, College of Medicine, Chungnam National University, Daejeon, South Korea (2016-2018). He is also the author and co-author of numerous research publications.
ABSTRACT

Professor Dr. Umi Athiyah, MS, Apt
Dean of the Faculty of Pharmacy, Airlangga University

Prof. Dr. Umi Athiyah, MS., Apt was born on Probolinggo, April 7th 1956. Work as a Lecturer at the Faculty of Pharmacy since 1981 until now. Currently serving as Dean of the Faculty of Pharmacy, a member of the National Pharmacy Commission (KFN) and also Head of the Education Development Division at the Association of Higher Education in Pharmacy (APTFI), which focuses on compiling the pharmaceutical education curriculum in Indonesia.

Besides that, several book has written, including (1) Prescription Textbooks: Medication and prescription Volume I, (2) CPD Module: Pharmaceuticals Care in Hypertension Therapy, and Wrote a translation of (3) Pharmacy Management 2nd edition: Essentials for All Practice Settings, which are used to support Student learning. Also a speaker at various National and International academic activities, such as the one just held in Japan 2018, The Joint Conferences Japan HPC and AP-Pen, 2018, Josai International University.

Research activities focuses on the field of community pharmacy which is about Pharmaceutical Care, Pharmaceutical Management as can be seen in several articles published in National and International journals. The last publication is about health insurance entitled The Influence of Participation of the Social Security Agency (BPJS) Health on Therapeutic Success in Hypertension Patients at Community Health Centers.

J Irwan Hidayat
Director of PT Industri Jamu dan Farmasi Sidomuncul, Tbk

J Irwan Hidayat was born in Yogyakarta. He is the eldest of 5 siblings and has been in the Jamu or traditional herbal medicine since 1971. J Irwan Hidayat started his career in PT Industri Jamu dan Farmasi Sidomuncul, Tbk as a commissioner from 1972 to 2013. Then from 2013 until 2016 he was assigned as President Director before becoming the Director of the company since 2016. He is currently the commissioner of several companies including PT Muncul Mekar (since 1994) PT Muncul Putra Offset (since 1994), PT Muncul Armada Raya (since 2002), PT Hotel Candi Baru (since 2013) and PT Mentari Anugerah Sakti (since 2013) and he also serves as the President Director of PT Semarang Herbal Indoplant (since 2009). J Irwan Hidayat was listed as one of the richest people in Indonesia by Forbes Magazine. He is an entrepreneur that have been consistently focus on charitable works.
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Development of educative dengue boardgame for supporting elementary schools children in mosquito breeding place eradication program at school
Titi Pambudi Karuniawaty, Adnanto Wiweko, Dewi Suryani, Dian Puspita Sari, Eva Trian
A study in Indonesia found that the most common bacteria was Haemophilus influenzae, parainfluenza, human metapneumovirus A and B, and human rhinovirus, and that 61% of pneumonia etiology were viruses and RSV was the main cause of severe hospitalized pneumonia (31%). The other viruses were influenza, human respiratory syncytial virus (RSV) and influenza. The PERCH (The Pneumonia Etiology Research for Children Health) study, in 9 study sites in 7 countries found that causes of pneumonia in children are bacteria i.e. Streptococcus pneumoniae and Haemophilus influenzae type b (Hib), and the most common viruses are parainfluenza, human para-influenza, human metapneumovirus A and B, and human rhinovirus, and the most common bacteria was S. Pneumoniae. A study in Indonesia found that the most common viruses are parainfluenza, human metapneumovirus A and B, and human rhinovirus, and the most common bacteria was S. Pneumoniae. A study in Indonesia found that 61% of pneumonia etiology were viruses and RSV was the main cause of severe hospitalized pneumonia (31%). The other viruses were influenza, human respiratory syncytial virus (RSV) and influenza.
that the incidence of all LRTIs (lower respiratory tract infections) was 60 per 1000 child-years, and the incidence of RSV-associated LRTIs was 10 per 1000 among young children of age < 2 years. In Indonesia data on the incidence of pneumonia still lacking.

The incidence of community aquired pneumonia in Low-Middle countries was about 0.22 per-child-year, and 11.5% become severe pneumonia. The World Health Organization (WHO) reported that pneumonia is responsible for 16% of death in under five years old children, caused 920, 136 deaths children under five years old in 2015, and became cause of more than 100 million pneumonia cases.

Several risk factors influence the morbidity and mortality. Children with immunocompromize, such as severe malnutrition or undernutrition and children with HIV infections, and post measles are at higher risk to having pneumonia. Several environmental factors also known as risk factors: indoor air pollution, living in crowed home, and parental smoking. Besides those factors, lack of immunization (DPT, measles, influenza and PCV /Pneumococcal Conjugate Vaccine) and low birth weight were also reported as risk factors. In 2009, and followed by 2015, the WHO and UNICEF released an Integrated Global Action Plan for combating Pneumonia and Pneumonia together with Diarrhoea. To accelerate pneumonia control the proposed interventions are protect, prevent and treat:

- Protect children from pneumonia including promotion of exclusive breast feeding and adequate complementary feeding.
- Prevent pneumonia with vaccination, hand washing with soap, reduce indoor pollution, prevention for HIV with cotrimoxazole profilaxis for infected and exposed-HIV children,
- Treat pneumonia, give prompt antibiotic and oxygen if needed.

Indonesian situation

Studies on the pneumonia incidence and mortality in Indonesia are still very rare. Hospital reports in almost all hospitals showed a high number of hospitalized severe and very severe pneumonia. A study in Bandung reported that there were 2087 children under 14 years old admitted to the Hasan Sadikin Hospital, in Bandung, with pneumonia, from 2012 to 2016, and 101 (4.85%) of them died during hospitalization.

Data from the Ministry of Health, showed that the total pneumonia in underfive years old children was 478,078 (47.17%) cases with case fatality rate of 0.07%.

Data on the risk factors were showed that low birth weight was 6.2%, exclusive breast feeding 37.3%, various foods intake only in 46.9%, severe malnutrition 10.2%, vitamin A supplementation 53.5%, complete Immunization coverage 59.2%, complete DPT 61.3%, measles 77.3%; new HIV cases increased from 41,250 in 2016 to 46,659 in 2018; HIV in pregnant women 5072 (0.8% from total examined 1,805,993). There were no data on HIV children. PCV Immunization is not yet in the NIP (National Immunization Program). However, a demonstration project was started in 2017 in Lombok Island and followed in Bangka Belitung province in 2018. Influenza vaccination is not yet included in the NIP program. Parental smoking is also still high.

Referring to the GAPP and GAPPD action from the WHO/UNICEF we have to reduce the risk factors. In the future we have to protect the children from pneumonia with reducing low birth weight and increase exclusive breast feeding with good prenatal care and to educate mothers. Furthermore, to prevent pneumonia with decrease air pollution, hand washing education, and promoting immunization and to include PCV and influenza into the NIP. We also have to do a prompt diagnosis of pneumonia by educating mothers/guardians, and health care workers so the sick children can be given antibiotic directly and oxygen if needed.

Keywords: ARTI, pneumonia, children, risk factors

Current diagnosis and therapy of cervical cancer

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The Female Cancer Foundation (FCF) has an extensive track record in the fight against cervical cancer. FCF, firmly connected to the Leiden University Medical Centre (The Netherlands), will lead a small consortium to implement a scalable, sustainable intervention in 12 countries. With public and private implementation, technical and academic partners in Africa and Asia, we propose a comprehensive Tell, Screen & Treat program, aimed at screening 2 million of the most vulnerable and hard to reach populations in LMICs. The key principles are single visit, affordability and accessibility, massive outreach, coordinated with (local) government, locally rooted and context-tailored demand creation. The inclusive secondary prevention program aims to screen and treat all. In reaching out to the HIV-positive, avoiding potential stigmatization is critical. Relevant country adapted service interventions are reinforced by various ongoing research activities addressing the socio-cultural, medical, practical and financial barriers to cervical cancer prevention support the evidence base and will lead to further global up-take of cervical cancer prevention. Self-sampling (PoC) HPV-testing and Visual Inspection with Acetic Acid combined with single visit treatment through Cryotherapy and Thermal Coagulation will be applied. Combined with local repair and maintenance of screening and treatment devices, the transferable intervention results in enhanced impact of screening and sustainable service.

Keywords: cervical cancer, HPV, current diagnosis

EBV infection and nasopharyngeal cancer: the role of exosome on diagnosis and treatment

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EBV infection is lead to major causes Nasopharyngeal Cancer (NPC). Citizen in several countries are infected by 80-90% EBV, however, only small number of them developed to nasopharyngeal cancer. NPC is epidemic in several countries mainly in South China and Southeast Asia, including Indonesia. There are several progress on NPC diagnosis and treatment, one of them is through exosome.

The role of exosome on diagnosis and treatment of NPC is promising due to its property that can use as liquid biopsy substance which is express on several body fluids including serum. This may develop as an excellent screening tool to make an early diagnosis. Regarding this issue, the development research on NPC can increase the prognosis due to early case finding. If the case find in early stage the prognosis will be better. Furthermore, Exosome can be used as an immunotherapy vehicle due to its properties which can carry several substances that could change microenvironment of the tumor or infection of EBV. The specific substances such as IFN, MRNA or some other substances can be inserted to exosome, therefore, it can make the tumor or EBV infection can heal.

Exosome play an important role on diagnosis and treatment of NPC, however, a further research regarding this point is needed.

Keywords: EBV Infection, NPC, Exosome
Achieving therapeutic outcome through implementing pharmaceutical care

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Pharmaceutical care is a philosophy of quality and work steps for pharmacist in therapeutic relationships. This is needed to increase rational drug use and to realize the integrity of the potential of commercially available medicines to achieve the best results for patients. This is also the contribution of pharmacists to the prevention or reduction of improper use of drugs by promoting health literacy related to treatment, involvement and participation of patients in their treatment, balance of roles and greater responsibilities in health services. Pharmaceutical care practitioners have a responsibility to understand the patient's medication experience, because it directly impacts the decisions made by the patient about their drug therapy. Although doctors, nurses, and pharmacists can advise the patients, but the patient finally decides what will do to take the medicine.

Providing pharmaceutical care means establishing a new philosophy in pharmaceutical practice, where pharmacists are responsible in collaboration with patients and other health care practitioners which care together to achieve the optimal therapeutic outcome to improve the patient's quality of life.

Pharmacists in implementing pharmaceutical care have a strategic role as generalist pharmacists who can initiate collaboration to optimize treatment obtained by patients at various levels of continuous health services in therapeutic relationships. The ability to use the right language correctly in pharmacy practice will reflect the level of competence and confidence of the Pharmacist.

Keywords: pharmaceutical care, health literacy, optimal therapeutic outcome

Development of social technology for malaria control

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In addition to the development of vaccines, drugs, and diagnostic techniques, the development of social techniques is important for infectious disease control. Because human behavior is one of a major factor in considering infectious diseases control. We have been developing the following social technologies for malaria control since 1990’ through conducting human ecological and epidemiological researches.

“Public and Private Mix” is the regional strategies in Southeast Asia. This strategies was formulated on the basis of the evidence, which is shown as a results of the study for the care-seeking choices for treatment of a febrile illness compatible with malaria in the public and private sectors in Lao PDR. Although most patients who failed being treated by a private care-provider switched to a public one, some exclusively relied on care within the private sector. Local pharmacy, kiosk and traditional healer played an important role for treatment in remote communities.

“Cooperation with educational sector” is recognized as an one of essential approaches for malaria control in World Health Assembly 2009. To extend the beneficial impact of deworming, the Asian Centre of International Parasite Control (ACIPAC) project has carried out activities to link deworming with health-promoting school programs in the Greater Mekong Subregion since 2001. We have conducted an integrated school-health-based program, including deworming and malaria education, under the umbrella of the health-promoting schools initiative, and creat the evidences which were shown the effectiveness of school based approached. School education is a system that is educated over the differences in languages and cultures of ethnic groups, and incorporating health education into school was effective for approaches to minority groups and socially vulnerable people who struggle with poverty.

In Asia, where malaria infections are markedly reduced, responding to the mobile population is the last challenge, and is also important to control re-emerging. We have identified in Laos that forest workers, foreign workers and the military are at high risk of malaria transmission. I would like to recommend new-integrated approaches for controlling these population.

Keywords: malaria, social technology, school-health-based program

Sociological Perspectives on Global Climate Change and Global Health: A socio-epidemiological study on malaria control program in Lombok, Indonesia; 2005-2014

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Global Climate Change and Global Health are the most crucial agenda faced with all mankind, in particular, with people in tropical developing countries today. This study is focused on the relationship between GCC and Global Health such as malaria risk in our globalized society. In order to examine this relationship, Mitsuda, Bukkyo University and Mulyanto, School of Medicine, Mataram University have been executed a socio-epidemiological study on malaria control program in Lombok, Indonesia, the center of a malaria outbreak in 2005.

Firstly, we made a hypothetical scheme on the potential impact of global climate change, e.g., global warming on malaria outbreak in East Lombok, 2005 and carried out the Collecting Baseline Data of Epidemiological/Sociological Survey (CBDESS) in 2006 to explore how the social/environmental determinants expanded the outbreak in East Lombok. Secondary, along with field interviews with medical staffs, government officers, school teachers and religious leaders, etc., continuous malaria blood tests and socio-epidemiological questionnaire surveys on malaria knowledge and behavior have been conducted based on the sample of 2,000 respondents from malaria infectious villages in East Lombok until 2008. Finally, the fundamental determinants of the outbreak were elucidated by statistical analyses of 98 socio-environmental variables of CBDESS data as the four major social factors; poverty, education, gender discrimination (mother and children health) and malaria risk behavior.

In response to the results, we launched “School Based Malaria Intervention (SBMI)” method from 2008 through 2010, a new environmental education program to fight against malaria, targeting the primary school children to play a role as community health messengers. “Malaria School Scout (MASCOT),” Approximately 800 children at 16 primary schools in East-North Lombok joined MASCOT program, which proved to be an effective sociological approach to achieve a lower incidence of malaria in the outbreak communities.

In conclusion, we will discuss sociological perspectives and future issues on malaria control program to fight against malaria outbreak resulted in global climate change by further integration of socio-epidemiological researches and environmental education program on GCC and Global Health.

Keywords: global climate change, global health, malaria
The distribution of hepatitis B virus serotypes/sub-genotypes in Indonesia: implication for language relationship

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Hepatitis B Virus (HBV) belongs to DNA virus whose distribution is worldwide including Indonesia, and around 30% of infected individuals will become asymptomatic chronic carriers of the virus. Based on the difference of its DNA sequence, HBV can be divided into 10 genotypes, i.e. genotypes A-J and 42 sub-genotypes. Whilst, based on its surface antigenic determinant, HBV is divided into four major serotypes; adw, adr, ayw, and ayr serotypes. Our studies indicated that HBV distribution is in line with the migration of Indonesian ancestors with various ethnicities, including their languages. There are 668 Local Languages in Indonesia, which were developed from one Language Cluster, the Austronesia Language Cluster. In the past the ancestors of the Indonesian population, including those who infected with HBV, migrated throughout Indonesia and later spread out into smaller language groups, namely the Western Malayo-Polynesian (WMP) subgroup, Central Malayo-Polynesian (CMP), and South Halmahera Western New Guinea (SHWNG). A recent study from at least 1,650 viremic subjects in 37 cities or villages on 19 islands from Sumatera to Papua shows that 4 genotypes of HBV; genotypes A, B, C, D, and all of the four major serotypes were found in Indonesia. Interestingly, if the HBV distribution is grouped into serotypes/sub-genotypes, its then become clustered into regions that are in accordance with the kinship zone of language of the Indonesian ancestor, namely: 1). adw/B3 that is predominant in Sumatera to the eastern part and up to Kalimantan and ended in Sumbawa Island is in line with the zone of the ancestor who speaks West Malayo-Polynesian Language; 2). ayw/B7, predominantly in East Nusa Tenggara and southern part of Moluccas is in line with the zone of the ancestor who speaks Central Malayo-Polynesian Language; 3). adw/CS which is the most in northern part of Sulawesi, northern part of Moluccas and western part of Papua-Indonesia is in line with the zone of the ancestor who speaks South Halmahera New Guinea Language. The distribution of HBV serotypes/sub-genotypes may support further tracing of the language relationship of Indonesian ancestors. 

**Keywords:** HBV, language relationship, Indonesia

Herbal industry based on GMP

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PT Sido Muncul Herbal and Pharmaceutical Industry Tbk. originated from a home industry in Yogyakarta in 1940 managed by Mrs. Rahmat Sulistyo in 1951 in Semarang, precisely on Jl. Mlaten Trenggulun, a simple company was established with the name “Sido Muncul” which means “A dream that is realized”. In its development, the factory located on Jl. Mlaten Trenggulun was unable to meet production capacity anymore, so in 1984 the factory was moved to the Small Industrial Environment on Jl. Kaligawe, Semarang. In 1997 the groundbreaking of the construction of a new factory was held in Bergas-Klepu, Semarang Regency by the 10th Sri Sultan Hamengku Buwono and was inaugurated in 2000. At present, the factory located in Klepu has expanded to an area of 30 hectares. In 2013 Sido Muncul was going public and became a public company.

In order for the product to continue to develop in accordance with the demands of the community and technological advancements, Sido Muncul formed cooperation with scientific institutions, including the Faculty of Pharmacy, Universitas Sanata Dharma, Yogyakarta, Faculty of Medicine, Universitas Diponegoro, Semarang, Faculty of Medicine, Universitas Maranatha, Bandung and other research institutions.

Sido Muncul is determined to develop business in the field of herbal medicine that is right and good. This determination makes the company more concentrated and innovative. With all the facilities owned by SidoMuncul, it has produced more than 200 products. Sido Muncul products are made based on CPOB and CPOTB standards. To provide quality assurance, every step of production starting from the selection of raw materials, extraction processes, processing to packaging and products reaches the market, carried out under strict quality control. The product quality is supported by accredited laboratory analysis facilities and obtain ISO 17025. The analytical laboratory has sophisticated supporting instruments such as AAS, GC, HPLC, ICPMS, UPLC, SPECTRO FOTOMETER, TLC, and other analytical tools. Other laboratory facilities such as the Microbiology Laboratory, Pharmacology Laboratory, Benefits Test Laboratory, Formulation Laboratory, Production Laboratory, Stability Laboratory and In Process Control Laboratory (IPC) also support the development of product quality.

Sido Muncul always strives to build trust, in addition to making good products also by trying to be friendly to the environment. To handle liquid waste, the plant uses a wastewater treatment plant at the factory location so that wastewater can be processed into water that can be used to water plants whereas solid waste from extraction waste will be processed into organic fertilizer, which can be used to fertilize plants. Liquid waste is processed into fertilizer. Packaging waste is made into recycled bags.

Sido Muncul encourages and assists every government policy by trying to follow and obey regulations, help encourages community empowerment, pay taxes, and carry out CSR (Corporate Social Responsibility) activities. At least there are several kinds of activities that have been carried out by Sido Muncul in carrying out CSR activities ranging from free Lebaran homecoming, cataract eye surgery, examination of elementary school children's eyes, charity funds to share orphanages and relief funds for hydrocephalus sufferers, natural disaster victims, promotions Tourism Through Kuku Bima Energi Advertising, Go Green Sido Muncul Program, Health Advertisements, Movement for Medication Before It’s Too Late, and Environmental Care Ads.

As a form of public trust, Sido Muncul has received many awards, both for the company and through its superior products. This award was received from various organizations or institutions, from print and electronic media, in cooperation with polling organizations in Indonesia whose credibility is undoubted. The acceptance of these various awards is a benchmark for the success of the company as well as the level of customer satisfaction with the quality of Sido Muncul products. And also as a symbol of the peak of the company's success in the fields of marketing, environmental and social.

**Keywords:** GMP, pharmaceutical, Sido Muncul
ABSTRACT

Pathobiology of Communicable and Non Communicable Diseases

Prostatic acinar adenocarcinoma incidentally found in cystoprostatectomy for bladder carcinoma: a case report and literature review

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Background: The incidence of synchronous tumor of bladder cancer and prostate cancer is relatively less common in Asian countries than in western countries. We reported one case of prostate adenocarcinoma, which was found incidentally in cystoprostatectomy for bladder carcinoma.

Case Description: 61-year-old male patient with hematuria for the last three months. Then a cystoprostatectomy and right-left iliac lymphadenectomy and appendectomy are performed. PSA level 0.08 ng/ml. On macroscopic examination, papillary tumor, white, brittle in the bladder were found which spread to the perivesical tissues. In the prostate, a white mass of 3.5 x 2.5 cm was found. The microscopic examination found a consistent feature for high grade infiltrating urothelial bladder carcinoma, and prostate acinar adenocarcinoma, Gleason Score 2 + 3 = 5. The incidence of prostate cancer synchronous tumors found incidentally when cystoprostatectomy for male bladder cancer is rarely found in Asian countries compared to western countries, 4-17% and 70% of cases, respectively. Microscopic diagnosis is not difficult when the two tumors show a characteristic feature. The prognosis in such cases depends on the extent of the spread of each cancer. Some studies state that the stage and grading of bladder cancer has a greater role in prognosis.

Conclusion: PSA examination and imaging evaluation before surgery need to be done to predict the possibility of synchronous tumor, although it does not always increase. PSA examination after cystoprostatectomy is also needed for patient monitoring.

Keywords: Bladder cancer, prostate cancer, incidental, cystoprostatectomy

Correlation of estrogen receptor expression and mitotic activity in patient with invasive ductal carcinoma of the breast

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Background: Estrogen receptor (ER) is an important biomarker in the routine examination of breast carcinoma. The estrogen receptor is probably the most powerful predictive marker in breast cancer management, both in determining prognosis and in predicting response to hormone therapies. Estrogens-ER binding can stimulate cell proliferation in both normal and neoplastic breast tissues. Proliferation rates in carcinoma can be evaluated by assessing the mitotic activity index (MAI). This study aims to analyze the correlation between ER expression and MAI in patients with invasive ductal carcinoma of the breast.

Methods: This was an observational study using cross sectional design. Forty patients diagnosed with invasive ductal carcinoma of breast participated in this study. The main variables were ER expression and MAI. Estrogen receptor expression is determined by immunohistochemistry evaluation and interpreted by the Allred scoring system into positive or negative expression. Mitotic activity index is evaluated using microscopy where mitosis is counted in 10 high power fields (400x magnification), categorized as ≤5 (score 1), 6-10 (score 2) and ≥11 (score 3) according to Nottingham Modification of Bloom and Richardson grading system. This study used Lambda test to analyze the correlation of ER expression and MAI.

Result: Among 40 samples, 21 were ER-positive tumor, and 19 samples were ER-negative tumor. Tumor with MAI ≤5 was found in 16 samples, tumor with MAI 6-10 was 16 samples, and tumor with MAI ≥11 was found in 8 samples. Based on the results of the Lambda test, there was a significant correlation (p<0.05).

Conclusion: There is a significant correlation between ER expression and MAI on invasive ductal carcinoma of the breast.

Keywords: Mitotic activity index, estrogen receptor, breast carcinoma, invasive ductal carcinoma
The correlation between age and expression of the HER2/neu receptor in patients with invasive ductal type of breast carcinoma in West Nusa Tenggara Province

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Background: Proliferation of breast carcinoma cells is mediated by HER2/neu, a proto-oncogene causes excessive cell increase and becomes one of the prognostic factors besides the age of patient. This study aimed to see the correlation between two prognostic factors of breast carcinoma, i.e., age and HER2/neu in patients with invasive ductal type of breast carcinoma in West Nusa Tenggara. This study is expected to be able to become a new reference for further research and provide overview of the relationship of age and HER2/neu as a prognostic factor so it can determine survival rates and recurrence of the disease.

Methods: This study was an observational category analytic study with cross sectional design. The age of the patient was obtained from the medical record; then it was categorized to be <40 years and ≥40 years. Immunohistochemistry examination was carried out on biopsy paraffin block of patients, and interpretation of HER2/neu was carried out with the scoring system. Age data and HER2/neu results of 40 patients were analyzed using the Fisher correlation test.

Results: There were seven samples (17.5%) aged <40 years old and 33 samples aged ≥40 years old with more common positive HER2/neu expression in patients aged <40 years (43%). Fisher correlation test showed no significant correlation (p=0.649) between age and HER2/neu receptor expression in patients with invasive ductal type of breast carcinoma in West Nusa Tenggara.

Conclusion: There was no significant correlation between age and HER2/neu receptor expression in patients with invasive ductal type of breast carcinoma in West Nusa Tenggara.

Keywords: Age, HER2/neu, invasive ductal type of breast carcinoma, immunohistochemistry, West Nusa Tenggara

Viral and non-viral causes of hepatocellular carcinoma patients in Arifin Achmad General Hospital Riau Province during 2013-2017

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Background: Hepatocellular carcinoma (HCC) is the second most common cancer in men and the fifth in women. It is the fourth leading cause of cancer-related death worldwide. Recent reports have suggested an increased prevalence of HCC without evidence of hepatitis B and C infection (non-viral HCC). This study aimed to describe the distribution of viral and non-viral risk causes of hepatocellular carcinoma cases.

Methods: This was a descriptive study with a cross-sectional approach conducted at Arifin Achmad General Hospital of Riau Province from 2013 to 2017. Data were obtained from the medical record of HCC patients using total sampling method.

Results: We included 129 cases of whom 64 (49.6%) were associated with viral causes, and 65 (50.4%) were non-viral HCC. Bivariate analyses showed that there was no age difference between viral and non-viral HCC patients, but the prevalence of non-viral HCC was significantly higher in female than male patients (OR= 3.12; 95% CI= 1.2-8.1; p=0.016). In addition, patients with elevated alpha-fetoprotein (AFP) <400 ng/mL were more frequently associated with non-viral HCC compared with those with elevated AFP ≥ 400 ng/mL (OR= 3.71; 95% CI= 1.49-9.26; p=0.004).

Conclusion: There was an equal proportion of viral and non-viral causes

The effect of telmisartan on collagen volume fraction in the kidney of 8% sodium chloride-treated rats

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Background: Excessive salt consumption is one of hypertension and kidney disease factors, while telmisartan is one of the antihypertensive drugs used in the therapy. Telmisartan not only blocks the angiotensin receptor, which leads to the decrease of blood pressure but also activates peroxisome proliferator-activated receptor gamma (PPAR-γ) and inhibits transforming growth expression factor of beta-1 (TGF-β). Whether telmisartan decreases the kidney collagen volume fraction of excessive NaCl–induced Wistar rats are studied in this experiment.

Methods: Twenty-five male Wistar rats 2.5-3 months of age and 100 – 150 g BW rats were used in this research. They were grouped into five groups; each group consists of 5 rats. Group I (G I) as first negative control did not receive NaCl and telmisartan. G II as second negative control received NaCl but not telmisartan. G III, IV, and V received NaCl and telmisartan 3, 6 and 12 mg/kg BW. The treatments were given every day within eight weeks. At the day of 56, all rats were sacrificed by mean of neck dislocation and operated to take the kidney. The collagen was stained by picrosirius red staining. Data were expressed as mean ± standard deviation. They were analyzed by parametric test (analysis of variance-ANOVA and paired samples t test) or nonparametric test (Kruskal-Wallis). A value of p<0.05 was considered statistically significant.

Results: The results showed that intraglomerular and extraglomerular collagen volume fraction was lower in telmisartan-treated Wistar rats group than the negative control group (0.05<p<0.05).

Conclusion: Intraglomerular and extraglomerular collagen volume fraction were lower in 8% sodium chloride-induced and telmisartan-treated male Wistar rats than the items of the negative control group.

Keywords: NaCl, telmisartan, TGF-β, collagen
found in HCC cases at Arifin Achmad General Hospital of Riau Province during 2013-2017, and this suggests a changing etiology of HCC that may impact HCC surveillance.

Keywords: AFP, gender, hepatitis B, hepatitis C, non-viral, HCC surveillance

Review of histopathological finding on nasopharyngeal biopsy in West Nusa Tenggara Province Hospital

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Background: The type of histopathologic expertise is very important to the clinician to decide the treatment and evaluate the workup and develop the standard procedure to the patient with a nasopharyngeal mass in the future. Aim of this study was to review histopathological finding in the nasopharyngeal tissue sample.

Methods: A descriptive study with a retrospective approach with total sampling based on the medical record in the ENT Department and the histopathologic slide was available in the Pathology Anatomy Department from January 2012 to January 2019.

Results: 147 cases which fulfill the study criteria. The most patient from East Lombok, 41 (27.9%) and Central Lombok 32 (21.8%). Mean of age patient were 45.33, with the youngest age was 19 years old, and the oldest was 74 years old. 103 (70.1%) male and 44 (29.9%) female with the ratio male to female 2.3:1. The most histopathologic finding was malignant 73 (49.7%), 3 cases keratinizing squamous cell carcinoma (WHO I), 2 cases of non keratinizing squamous cell carcinoma (WHO II), 64 cases undifferentiated squamous cell carcinoma (WHO III) and 4 (2.8%) cases that should be confirmed by Immunohistochemistry due to the similarity of non-Hodgkin lymphoma with WHO III. non-malignant histopathologic in 70 cases (47.6%), inflammatory polyp 1 case (0.7%) and 3 (2%) were necrotic tissue.

Conclusion: According to this study, malignant expertise was the most histopathologic finding 73 (49.7%), and the most malignant cases were undifferentiated squamous cell carcinoma 64 (43.5%). On the other hands, the non-malignant finding is relatively high 70 (47.6%). This result leads to a review of our hospital protocol either on clinical diagnosis procedure or pathologic procedure.

Keywords: Histopathologic finding, nasopharyngeal mass, undifferentiated carcinoma

Translation of the C677T methylenetetrahydrofolate reductase gene mutation to the corresponding protein structure

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Background: The C677T methylenetetrahydrofolate reductase gene mutation was correlated to some diseases and some drug-related problems. One of the diseases is type 2 diabetes mellitus.

Methods: Aimed to examine whether the thermolability of the mutant is the plausible cause, molecular modeling of the corresponding protein structure was performed and followed by 10 ns molecular dynamics (MD) simulations using YASARA Structure version 19.5.5. The MD simulations were performed in the Google Cloud Platform.

Results: The results provide insights about the causes of the mutant thermolability at the atomic level.

Conclusion: The gene mutation slightly changes the enzyme conformation but disrupts the enzyme stability.

Keywords: methylenetetrahydrofolate reductase, gene mutation, molecular modeling, molecular dynamics, YASARA Structure, Google Cloud Platform
Identification of potential dengue vector breeding sites in elementary schools in Gunung Sari District, West Lombok

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Background: Dengue infection is one of the main problems in Indonesia, especially Lombok Island. This study aims to determine the variation of artificial containers as potential dengue vector breeding sites in elementary schools in Gunung Sari District, West Lombok.

Methods: A cross-sectional mosquito larvae survey in 24 elementary schools in Gunung Sari District was conducted. This study was carried out in September 2018 in the dry season and one month after the Lombok Earthquake. In this study, visual identification of the presence of mosquito larvae in artificial containers was identified. Furthermore, the container index (CI) and the percentage of schools manifested with mosquito larvae were also calculated.

Results: A total of 204 containers were inspected, and of these, 28 were positive for mosquito larvae with a CI of 13.73%. Out of the 24 schools surveyed, as many as 16 schools (66.67%) were manifested with mosquito larvae. The most productive mosquito breeding sites were indoor unused artificial water containers due to the damaged building after the earthquake. These include cement water tanks, buckets, and ceramic squat toilet present inside the school’s toilet. Whereas, the predominant artificial outdoor mosquito breeding sites identified in this study were uncovered communal ceramic and cement water tanks.

Conclusion: This study emphasizes the presence variation of mosquito breeding sites between regions and the need to implement vector control strategies at schools.

Keywords: Dengue, vector, breeding sites, elementary school, Lombok

Literature review: post – mortem infection

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Backgrounds: Forensic medicine practices are associated with an increased risk of transmission of infection that is significant compared to other medical specialist practices, both airborne and parenteral transmission. This is because death cases that caused by infectious diseases are currently increasing, especially in developing countries. Several studies have suggested an increase in the prevalence of HIV, Hepatitis B and C, Tuberculosis, Ebola virus infection, and H5N1 infection in workers at the autopsy room. In this paper, the author discusses post mortem infections that can be transmitted to the body.

Methods: The method used in writing this paper is a descriptive method. This article writing is a description of various literature reviews.

Results: The morgue can be a place that is harmful to health. But it will be even more dangerous if people who work in this environment do not care or know the potential danger that can be obtained from the morgue. The infection obtained from the morgue is an infection obtained from the corpse, wherein the body of the corpse, there are pathogenic germs that have the potential to cause disease if they transfer or infect living humans. Pathogenic germs that can survive for long periods in the corpse have the potential to become infectious agents that can be transmitted to healthy workers in the morgue. These infectious agents can come from bacteria (Mycobacterium tuberculosis); viruses (Human Immunodeficiency Virus, Hepatitis B, Hepatitis C, Ebola, and H5N1); mushrooms and parasites.

Conclusion: The risk of infection transmitted from the corpse that is infected to the healthy workers in the morgue is increasing. Infection that has the potential to be transmitted originates from a pathogen that can survive for a long period in the body of the corpse. Preventive measures are needed to prevent transmission of post mortem infections.

Keywords: Post mortem infection, infectious corpse, mortuary

Case report: management of the corpse with anthrax suspect

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Backgrounds: Anthrax is an infectious disease caused by Bacillus anthracis. Anthrax is a zoonosis, especially grass-eating animals such as sheep, goats, cattle, and livestock. Humans can be infected by this disease if the endospores enter the body through abrasions or cuts, inhalation, or contaminated food. Transmission naturally occurs when in contact with animals infected with anthrax or animal products contaminated with anthrax bacteria. Anthrax consists of skin anthrax which is the most common infection; Inhalation anthrax is characterized by hemorrhagic mediastinitis, a progressive systemic infection, and results in a high mortality rate; Gastrointestinal anthrax is rare and is associated with high mortality.

Case: The bodies reported by the Port Health Office were found on ships containing cows. The body was found with sudden death by a crew member who had previously reported suffering from abdominal pain, nausea, vomiting blood, and also breathing difficulties. The body is treated specifically with various modifications from the management of infectious corpse. Examination of the corpse is done outdoors. The examination site is prepared with plastic coated. The examining officer uses special personal protective equipment while the recording officer uses the personal protective equipment and is outside the plastic-coated area. All officers are disinfected after the inspection before removing personal protective equipment.

Conclusions: Transmission prevention of infection from the corpse is needed to reduce the risk of transmission to the officers. Management of infectious corpse requires standard operating procedures for management bodies specifically.

Keywords: Infectious corpse management, anthrax, morgue
Prevalence and risk factors for high-risk HPV in Mataram

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Background: Woman with high-risk HPV (human papilloma virus) had four times increased risk of cervical intraepithelial neoplasia (CIN) grade 2 or worse. HPV DNA testing as a screening cervical cancer test is better than standard cytology-based screening but expensive. We sought to determine risk factors associated with high-risk HPV in Mataram that can be used as a priority community focus to be screened with an HPV DNA test.

Methods: This is a cross sectional study. HPV collected samples were obtained from women attended in Meninting Public Health and private clinic. Women completed behavioral questionnaires at baseline. The prevalence of high-risk HPV infection detected by hybrid capture two method and association with behavioral risk factors were analyzed by bivariate analysis.

Results: All of 31 VIA-positive women were completed questionnaires, and 11 (32.3%) were at high-risk HPV. Bivariate analysis showed a significant association between younger age OR 0.54 (95% CI 0.37-0.78), low education level OR 12.0 (95% CI 1.29-112.67), number of sexual partner OR 0.02 (95% CI 0.002-0.20) and history of sexually transmitted infection and high risk HPV infection OR 0.54 (95% CI 0.37-0.78).

Discussion: The high prevalence of high-risk HPV infections is mainly according to the first time of sexual intercourse, the number of sex partners and their partners, and other STIs, including HIV.

Conclusion: Screening should be targeted and prioritized for women with more than one sexual partners and a history of STI. Behavioral factors can influence the risk factor of high-risk HPV infection in all sexually active women.

Keywords: High-risk HPV, prevalence, risk factor, cervical cancer

Corelation between increasing feritin level and thyroid dysfunction in children with thalassemia major

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Backgrounds: Thyroid dysfunction is a kind of endocrinopathy in thalassemia because of iron overload. Ferritin is mostly used marker of iron body storage. Ferritin is assumed as marker for predicting thyroid dysfunction. This study analyzes correlation between increasing feritin level and thyroid dysfunction in thalassemic children.

Methods: A cross sectional study was performed on thalassemic children who have >1 year transfusion on September 2016. Clinical feature, anthropometry, ferritin, TSH and fT₄ measurements were performed when patients came to outpatient clinic of pediatric hematology-oncology. Ferritin examination was performed by Cobas and ECLIA method; TSH and fT₄ were performed by Advia Centaur and ECLIA method. Data were analyzed by Spearman test.

Results: There were 99 children, mean age of 10.7 (3-18) years-old, and transfusion time ≤ 10 years 83.8%. Male was 52.5% and short stature was 57.6%. Mean ferritin was 3555 µg/L. Thyroid dysfunctions were 27.3%, consisted of 13.1% central hypothyroidism, 12.1% subclinical primary hypothyroidism, 2.0% overt primary hypothyroidism. The youngest was 5 year-old as central hypothyroidism. Increasing prevalence were highest from 10 to 11 years-old. There were no linear correlation between ferritin and TSH (p = 0.615; r = -0.051) and fT₄ (p = 0.544; r = -0.062). Mean ferritin of normal vs thyroid dysfunction were 3545 vs 3582 µg/L; p = 0.863. Almost of thyroid dysfunction in ferritin level of > 1000 µg/L.

Conclusion: There was no linear correlation between ferritin and thyroid dysfunction. It must be awareness of thyroid dysfunction in ferritin level > 1000 µg/L.

Keywords: Thalassemia major, ferritin, TSH, fT₄, Thyroid dysfunction

Correlation of fiber intake with defecation patterns in medical students of Universitas Mataram

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Background: Vegetables and fruits are good sources of fiber. The recommended fiber intake needs according to Nutritional Adequacy Rate for adults aged 19-29 years is 32 grams per day for women and 38 grams per day for men. Inadequate intake of fiber may increase the risk of defecation pattern disorder. This study aims to determine the correlation of fiber intake with defecation of the medical students of Universitas Mataram.

Method: This study was a correlativ analytic study with a cross-sectional design. The samples were 66 medical students of Mataram University who suitable to the research criteria. Data was collected by using a 2x24 hour food recalls questionnaire and defecation pattern questionnaire. Food intake data were processed with Nutrisurvey 2007 Software to determine the amount of fiber intake. Data of defecation patterns taken include frequency of defecation and stool consistency. This study used Pearson correlation test to determine the correlation of fiber intake with the frequency of defecation. Spearman correlation test used to determine the correlation of fiber intake with stool consistency.

Results: According to 66 respondents, the average fiber intake was 6.98±3.22 grams, the median frequency of defecation was four times per week, and the respondents’ stool consistency was 54.5% normal, 24.2% with hard stool consistency, and 21.2% with the liquid stool consistency. A significant correlation between fiber intake and frequency of defecation (p<0.01; r=0.483). Spearman correlation test results, showed a significant correlation between fiber intake and stool consistency (p<0.01; r=0.586).
Conclusion: Fiber intake affects the defecation pattern, which is the frequency of defecation and stool consistency of the medical students of Universitas Mataram.

Keywords: fiber intake, defecation pattern, frequency of defecation, stool consistency

Building a sustainable screening program for refractive error among school children in West Nusa Tenggara

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Background: Globally, refractive error (RE) is a major cause of visual impairment (VI). Uncorrected RE in school children can impact the education and social life. If there was no effort to reduce the development and the progression of RE, then the burden of VI will rise significantly.

Methods: Observational study was conducted to record the plans and programs for RE screening among school children in West Nusa Tenggara. The data were collected from West Nusa Tenggara Provence Health Office and stakeholders.

Results: A training of trainer for RE screening was conducted during 2018. Ninety-four doctors, 99 nurses and six persons in charge for the program from 5 out of 10 regencies in West Nusa Tenggara were trained about education and communication of VI and blindness prevention, case finding the recording and basic teaching to train teachers in their district to do a visual acuity (VA) screening. Within a year, 1,782 elementary school teachers and 666 junior high school teachers were trained by the trainers. A total of 183,650 students were screened by the teacher, and students with VA less than 6/9 were referred to first level health facilities. There were 14,305 students referred, and 98.18% of them had RE. Glasses prescriptions were written by the doctors, and free glasses were given with the charity of Fred Hollow Foundation.

Conclusion: A program of RE screening among school children was developed in West Nusa Tenggara and was able to find and treat RE cases. The program effectively found RE cases because teachers were involved.

Keywords: Refractive error, school children, visual impairment

Effect of iodine status on nutritional status of school-age children in artisanal and small scale gold mining area

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Background: Nutritional status of school-age children is influenced by several factors, e.g., nutrition intake, hormone, and underlying disease. Mercury, as a pollutant from artisanal and small scale gold mining (ASGM), inhibits thyroxin production. The objective of this study was to evaluate the effect of iodine status and nutritional intake on nutritional status of school-age children in ASGM area.

Methods: Study design was cross sectional. There were two groups; case group was school-age children exposed by mercury from ASGM area Sekotong subdistrict, and control group was school-age children in Narmada subdistrict. 62s children from ASGM were enrolled, and 52 children from the Narmada. Iodine status was assessed by measured urine iodine excretion using acid digestion method; nutrition intake assessed by using recall 24 hours; nutritional status by measured anthropometry. Correlation between nutritional and iodine status was examined by using Spearman test.

Results: Nutritional status of case group found 45.1% were stunted and 27.4% were underweight. Control group found 13.4% stunted and 9.6% underweight. Iodine status of case group: 3.9% deficient and 68.6% at risk of iodine-induced hyperthyroidism, the control group was found that 3.8% deficient and 72.8% at risk of iodine-induced hyperthyroidism. Iodine intake both groups were under RDA value of the case group was 8.3 µg/day, and the control group was 11.5 µg/day. All nutrition supporting growth did not meet the RDA value. Spearman's test result was p=0.557.

Conclusion: Iodine status did not correlate with the nutritional status of children in ASGM area.

Keywords: Iodine status, nutritional status, school-age children, nutrition intake, ASGM.

Correlation between body fat percentage and waist-hip circumference ratio with the physical fitness of medical faculty students of Universitas Mataram

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Background: Body composition is one of the factors that play a role in physical fitness. Body composition can be measured by calculating body fat percentage and waist-hip circumference ratio. Excessive body fat usually will harm physical fitness. The purpose of this study was to determine the correlation between body fat percentage and waist-hip circumference ratio with physical fitness.

Methods: This study is a descriptive analytic study with a cross sectional design. The subjects were 82 medical students of Mataram University who met the research criteria. Body fat percentage was measured by body composition monitor and physical fitness obtained from maximal oxygen uptake values (VO2max) that were calculated from the results of the Queen College Step Test. Data were analyzed using the Pearson correlation test.

Results: The results showed that the mean of body fat percentage, waist-hip circumference ratio, and VO2max were 28.3 kg/m², 0.87 cm, and 37.7 ml/ kg/minute, respectively. There was a significant correlation between body
fat percentage and physical fitness (p=0.02; r=-0.256) while there was no significant correlation between the waist-hip circumference ratio and physical fitness (p>0.05).

**Conclusion:** The higher the body fat percentage, the lower the level of physical fitness.

**Keywords:** body fat percentage, waist-hip circumference ratio, physical fitness, VO₂max

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**The uniqueness of prenyl flavones from the genus Artocarpus**

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**Background:** Many species of traditional medicine have reported, but research on the chemicals content of plant has not much in Indonesia. One group of plants that has benefits in the field of medicine is genus *Artocarpus.*

**Methods:** The method carried out by analyzing the review of journals as a result of previous studies is in the form of a published journal. Journal review techniques go through three stages, namely the display stage, the reduction stage, and the conclusion stage.

**Results:** Flavonoids were prenylated either by isoprenyl or by geranyl which have been isolated from *Artocarpus.* The prenylation was especially in ring A (C6 and C8) and C3 positions. Prenylated flavonoids were intermediate compounds for further biosynthesis. Prenylated flavonoids on the C6 or C8 was found to have monooxygenation patterns at C4' or deoxygenation at C2', C4'. Another prenyl flavon was class of 3-prenylflavone.

**Conclusion:** This prenylation process on C3 gives a lot of modifications to the structure of the flavonoids found in the genus *Artocarpus.* The uniqueness of the structure of prenyl flavon in *Artocarpus* produces broad bioactivity such as anti-bacterial, anti-malarial, and cytotoxic.

**Keywords:** *Artocarpus,* genus, prenylated, isoprenyl, flavonoid

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**Study of disaster management policy and evacuation Procedures in Indonesia’s Health Sector as an Archipelagic Country**

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**Background:** Indonesia is an archipelagic country that is crossed by two major volcanic pathways and a meeting of three large tectonic plates beneath, which makes Indonesia prone to natural disasters. More than 1,800 catastrophic events in the period 2005 to 2015 destructed the physical infrastructures and public facilities, in addition to intensive care needed health problems and infectious diseases, with limited personnel and medical devices. The purpose of this study is to review disaster management policies and evacuation procedures in Indonesia, especially in small islands, as well as the role and coordination of each related sectors.

**Methods:** This is qualitative research with a retrospective design by collecting various related data sources regarding disaster management in Indonesia during the period 2005-2015.

**Results:** The results of the study found that there had been a policy in the form of a Decree of the Minister of Health No. 145/Menkes/SK/I/2007 concerning Guidelines for Disaster Management in the Health Sector. Regional capacity in disaster management must refer to the National Disaster Management System contained in Law Number 24 of 2007 concerning Disaster Management and its derivative rules because regional capacity also determines the success of disaster management and risk reduction.

**Conclusion:** Although there has been a Regulation of the Head of BNPB Number 17 of 2011 concerning guidelines for disaster management volunteers, the implementation must still be closely monitored due to the lack of specific guidelines of volunteers for the health sectors and regulations regarding the assistance of workers and medical devices from abroad.

**Keywords:** Disaster management policy, evacuation procedures, archipelagic, health sector

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**Effect of phenolic rich extract and fraction from *Eleutherine americana* on planktonic growth and biofilm formation of *Staphylococcus aureus***

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**Ethnomedicine, Small Island Medicine and Maritime Medicine**
Validity assessment of pedagogic quality for “Med Stud Games” as a serious games

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ABSTRACT

Background: Microbial in nature tends to adhere to the surface, develop communities called biofilm. Biofilm protects microbes from the unfavorable environment by enveloping the communities with an extracellular matrix called exopolysaccharides (EPSs). Biofilm has high resistance against the antibiotic, which makes it hard to eliminate. As for now, the demand of antibiotic agents is increasing rapidly. Terrestrial plants still consider as the main source of natural therapeutics products. Plants have diverse and interesting molecule for the development of new anti-infective agent. *Eleutherine americana* has been used as traditional remedies in Dayak ethnicity for few purposes including wound care, anti-infective for diarrhea, and antipyretic agent. This study aimed to assess the potency of phenolic rich extract (PRE) and a fraction (PRF) from *Eleutherine americana* against clinical isolated pathogenic *Staphylococcus aureus*, all with hemolytic activity.

Methods: Following ethanol extraction, the remaining sample was partitioned with methanol. The planktonic growth inhibition activities tested using in-vitro macrodilution while biofilm inhibition carried out using in-vitro microdilution with crystal violet staining.

Results: Both samples were found to inhibit planktonic cell growth and biofilm formation of *Staphylococcus aureus*. The PRE minimum inhibitory concentration (MIC) range from 0.5 mg/mL – 1 mg/mL while PRF MIC range from 0.25 – 0.5 mg/mL. PRE and PRF exhibited a capacity to inhibit biofilm formation at a concentration range of 0.06 – 0.5 mg/mL. The higher concentration of PRE and PRF was needed to degrade mature biofilm.

Conclusion: This study indicates that *Eleutherine americana* may be used as an alternative anti-infective agent to control biofilm formation. Further analyses are needed to validate the antibiofilm activity from *Eleutherine americana*.

Keywords: *Eleutherine americana*, antibiofilm, antibacterial, *Staphylococcus aureus*

**Brueca javanica** (L) merr seeds converted high blood glucose to glycogen storage in the liver and muscles of diabetic rats

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ABSTRACT

Background: The seed of *Brueca javanica* (L) Merr, locally called “Buah Wali”, is a promising antidiabetic agent due to its hypoglycemic activity. The mechanism of action of Buah Wali seed in reducing blood glucose level can be determined by measuring glycogen levels in the liver and muscles. This study aimed to determine the effect of suspension seed of Buah Wali on glycogen level in the liver and muscles of diabetic rats.

Methods: This study used five groups, namely positive control of glibenclamide 1.35 mg/kgBW, normal control, negative control of CMC-Na 0.5%, and treatment dose of 25 mg/kg BW and 50 mg/kgBW of suspension seed. All groups (except normal controls) were induced with alloxan 125 mg/kgBW intraperitoneally. The glycogen content of rat liver and muscle in all treatments were analyzed by the anthrone method using a UV-Vis spectrophotometric instrument. The glycogen level of each treatment was statistically analyzed by ANOVA test using SPSS 16.

Results: The results of this study were suspension doses of 25 mg/kgBW, and 50 mg/kgBW were able to increase glycogen storage in the liver and muscles of diabetic rats. The increase in glycogen levels at a dose of 25 mg/kgBW was higher than the dose of 50 mg/kgBW, with an increase of 131.58% in active muscles, 258.6% in passive muscles, and 217.18% in the liver.

Conclusion: The results of statistical tests showed that glycogen levels in the suspension group differed significantly (p<0.05) compared to the normal group, positive controls, and negative groups.

Keywords: *Brueca javanica* (L) merr, antidiabetes, glycogen storage, liver, muscle
The value of marine aquaculture as complementary livelihoods small fisherman in coastal waters of East Lombok, Indonesia

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Background: Small-scale fishermen are groups of people who have the most population from other populations in the coastal areas. They have a very important role in supplying the needs of the community’s protein sourced from the sea. The purpose of this research is the development of aquaculture by small fisherman based on local potential.

Methods: This research was designed through a participatory approach based on the potential of the local environment. The research method used by observation, interview and questionnaire and the analysis of data by descriptive statistical.

Results: The results showed that marine aquaculture has a contribution to the average income of Rp. 4,750,000/month, besides that cultivation can be as a place for fishermen families to work and solutions to family needs that are temporal.

Conclusion: The conclusion of this study is that small fishermen at the study site developed cultivation as a form of adaptation to changes in the condition of capture fisheries in meeting the living needs of fishermen families. In this case, cultivation can be a model in the community poverty alleviation strategy in coastal areas, especially in study locations.

Keywords: Small fisherman aquaculture, local potential and value of aquaculture

Endoscopic third ventriculostomy in tuberculous meningitis with hydrocephalus

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Background: Endoscopic third ventriculostomy (ETV) is increasingly being used as an alternative treatment in tuberculous meningitis (TBM) hydrocephalus. ETV is increasingly being used as an alternative treatment in TBM hydrocephalus. The placement of a ventriculoperitoneal (VP) shunt is the most common form of treatment for hydrocephalus in TBM. An alternative choice is ETV, but it is debatable. ETV in TBM hydrocephalus can be technically very difficult, especially in the acute stage of the disease due to inflamed, thick, and opaque third ventricle floor. ETV has variable success in these patients and is generally not advisable in patients in the acute stages of the disease.

Case Description: A 15-year-old man with hydrocephalus in tuberculous meningitis. Previously the patient was diagnosed with tuberculosis. The medicine for anti-tuberculosis drugs on treatment. Laboratory examination demonstrated gene expert TBC Positive, related to the allergic reaction. Chest X-Ray with miliary tuberculosis and head CT Scan with contrast showed hydrocephalus and meningitis TBC. Patient with ETV success score of 60 %. Patients received ETV and tolerable in these patients.

Conclusion: Endoscopic techniques are being increasingly used in the management of various intracranial pathologies in recent times. ETV as an alternative to shunt procedures is an established treatment for obstructive hydrocephalus in TBM. ETV is recommended in chronic phase in TBM hydrocephalus.

Keywords: Hydrocephalus, Tuberculous Meningitis, TBM, Alternative choice treatment, ETV

Adolescence substance use disorder and pregnancy: a case report

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Background: Adolescence is a crucial period of physical and psychological development, and drug use significantly altered the processed and have potentially harmful implications for subsequent academic and social functioning, health problems, and more likely to develop drug addiction in adulthood. In women, substance use is related to an unplanned pregnancy and also increased the risk of harmful effects on maternal and fetal outcomes.

Case Description: Ms. S, 17 years old, referred from screening and brief intervention program, had high-risk WHO-ASSIST score for the stimulant user. From the initial assessment, the patient had a previous history of the chronic
amphetamine-type stimulant user and had been abstinence since four months ago. The client denied recent withdrawal symptom and reported herself seven months pregnant and forgot her LMP. From the obstetric examination, the significant fetal abnormality has not found, and the obstetrician suggested a continued observation upon the prenatal period. From the psychiatric examination, the client had mood problems slightly and before received psychotherapy instead of pharmacological therapy. She will continue the inpatient child rehabilitation in a child welfare facility to ensure patient self-care and abstinence from substance use.

**Conclusion:** Substance use treatment should meet the individual needs, particularly special population, to increase the treatment outcomes and to reduce significant harmful effects. Regular substance use screening is needed for early identification and intervention in antenatal care services.

**Keywords:** Adolescence, substance use disorder, pregnancy

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**Vitamin D in HIV infection: the role of vitamin D deficiency in immunity**

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**Background:** Human immunodeficiency virus (HIV) is a virus that attacks the human immune system, which in the later stages causes symptoms of AIDS. Progressively immune system decreased in HIV is mainly due to the gradual destruction of peripheral blood CD4 T cells through rapid HIV replication and immune activation.

**Methods:** This article was a descriptive article review from various literature.

**Results:** Progressive immune deficiency is characterized by the appearance of opportunistic infections or infections by other microorganisms (bacteria, fungi, and viruses). Vitamin D acts as a natural immunomodulator in chronic inflammatory diseases, including HIV patients. Vitamin D is a key regulator of the body’s defense against infection by involving the activation of genes and pathways which spur innate and adaptive immunity mechanisms, through activation of cathelicidin. Risk factors for vitamin D deficiency in people with HIV are HIV-related factors, including immune activation and side effects of anti-retroviral drugs. Vitamin D deficiency affects the increase in HIV viral load, rapid AIDS progression, and shortening of survival that causes death, especially in HIV patients with severe immune deficiency.

**Conclusion:** Discussion of the role of vitamin D in HIV disease is expected to provide a new perspective in the pattern of therapy and the prognosis of HIV patients.

**Keywords:** HIV/AIDS, immune deficiency, vitamin D

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**Dilated Cardiomyopathy in Patient with Hypothyroidism**

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**Background:** Alteration in thyroid hormone has an important impact on the cardiovascular system. The heart is very sensitive to an alteration in thyroid hormone. Alteration in thyroid hormone has been known to cause the changes in heart structure and function. Hypothyroidism is associated with bradycardia and diastolic dysfunction. Dilated cardiomyopathy is a very rare presentation of hypothyroidism.

**Case Description:** A 26-year-old woman came to a cardiology clinic with a chief complaint of fatigue and palpitation. On physical examination, the vital signs such as blood pressure 110/70 mmHg, pulse rate 65 beats/min, respiratory rate 22 breaths/min, and O2 saturation 98% in room air. On clinical laboratory examinations showed elevated TSH serum levels (65.75 uIU/mL) and decreased FT4 serum levels (4.42 Pmol/L). From electrocardiography showed sinus tachycardia and left ventricular hypertrophy. On echocardiography, the patient had moderate mitral regurgitation, mild tricuspid regurgitation, all chamber dilatation, and abnormal left ventricular systolic function with ejection fraction 26.9%. This patient has been given furosemide 40 mg, spironolactone 25 mg,
Case report: management of uterine atony using a condom catheter

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Background: Maternal mortality rate due to uterine atony is higher in women living in a limited-resources-situation.

Case Description: The first case was a 30-years-old woman, P2A0, admitted to hospital from independent midwife practice referral. Three hours before admitted to the hospital, she had given birth. She was somnolence with a blood pressure of 80 mmHg by palpated, a heart rate of 120 beats/min, no strong lift pulse, and a respiratory rate of 45 breathes/min. She developed uterine atony with active bleeding through OUE. The second case was a 25-years-old woman, P3A0, presented with postpartum hemorrhage. She was compos mentis and weak, with a blood pressure of 90/70 mmHg, a heart rate of 112 beats/minutes, no strong lift pulse, and a respiratory rate of 36 breaths/minutes. The obstetric examination found the uterus was atony with massive vaginal bleeding. In both cases, the patients should receive the stabilization procedures, management for atony with internal and external bimanual compression, misoprostol 800 mcg intrarectal, methylergometrine, packed red cells transfusions, as well as installing a condom catheter to stop bleeding.

Conclusion: The installation of condom catheter is effective to stop postpartum hemorrhage.

Keywords: Uterine atony, condom catheters, case report

Prevalence of infants with jaundice in 2018-2019 at the Regional General Hospital of West Nusa Tenggara Province

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Background: Jaundice is a yellow stain on the sclera and skin caused by the accumulation of bilirubin with levels reaching ≥15 mg/dl. More than 50% of normal newborns and 80% of less-term infants experience jaundice. Jaundice can be physiological as well as pathological, so the etiology must be sought to provide appropriate management.

Method: In this study, quantitative descriptive design was carried out in March 2019. Data on the study of jaundice infants were obtained through a medical record retrospectively. The population in this study were all babies with jaundice and were treated in the Perinatology Division of the Children’s Department of the NTB Provincal Hospital in the period March 2018 to March 2019. The sampling method in this study was using the total sampling method.

Results: The population in this study was 343 neonates, of which 231 neonates entered the inclusion criteria in this study. The male patients in this study had a percentage of 53.7%. Based on maternal gestational age, patients with a term gestational age had a total of 151 patients with a percentage of 65.4%. In variable birth weight, patients with normal birth weight had 154 patients with a percentage of 66.7%. Based on the method of birth, patients were born by cesarean section with 154 patients with a percentage of 66.7%. Patients with jaundice with comorbidity of 199 patients were 86.1%. Based on the assessment of the Apgar score, more patients in this study did not experience asphyxia.

Conclusions: Most infants with jaundice are male, term, normal birth weight, born with cesarean section, accompanied by comorbidities, and have Apgar score 7-10.

Keywords: Jaundice, infants, West Nusa Tenggara, Province General Hospital

Choriocarcinoma on the fallopian tube: a case report of gestational trophoblastic neoplasia on unmarried Asian female

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Background: Choriocarcinoma in the fallopian tube is a rare case, only about 1% of all trophoblast diseases are malignant.

Case Description: A female, reproductive age, unmarried, come with complaints of tumors in the abdomen and with severe clinical conditions (pain, tightness, weakness, liver and kidney problem, and infection). From history-taking revealed a progressive mass, a history of colitis, late menstruation for three months, and a history of severe abdominal pain. From physical
ABSTRACT

examination found a mixture of a cystic and solid mass with limited mobility. The sonographic examination found the tendency of malignancy ovarian mass. Clinical laboratory results that showed liver and kidney dysfunction, lung infection, and increased tumor markers that are Ca 125 (215, RMI 1255), and LDH (1.290 repeated 616), concluded leading to a suspiciously malignant ovarian cyst. From the surgery, a large uterus was obtained with a mass stick to the peritoneum and omentum with the size of 20x15 cm come from the left tube. Adhesiolysis and left salpingectomy were performed. Both ovaries well-identified and show multiple cysts in the right ovary with the size of 5x5 cm and tend to be benign, partial oophorectomy and frozen section were performed. A pathological examination showed a tendency for choriocarcinoma and the right ovarian cyst in the form of serous cyst adenoma. Initial levels of β-hCG >1,500 mIU/ml, after surgery and treatment became 247.66 mIU/ml. The patient received two times MTX chemotherapy, with the final β-hCG <2.00 mIU/ml. After-course chemotherapy two times with beta-hCG results consistent <2.00 mIU/ml. The patient’s last condition has been improved and reported to be pregnant and has one child.

Conclusion: Choriocarcinoma can originate from a gestational or non-gestational process. Clinical evaluation and monitoring for the possibility of choriocarcinoma is needed to identify choriocarcinoma and get appropriate therapy.

Keywords: Choriocarcinoma, fallopian tube, β-HCG, ovarian mass

Determinants factor of knowledge about mother-to-child-transmission on HIV among women in Indonesia: an analysis of Indonesia Demographic and Health Survey 2012

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Background: There is a critical situation in Indonesian HIV epidemics. Pregnant women living with HIV for 14% put Indonesia in a noteworthy situation, as a mother to child transmission (MTCT) accounts for a dominant route for children’s infection. Raising knowledge among women on MTCT of HIV is important to limit and reduce its transmission. We are going to analyze the determinants factors of knowledge on MTCT of HIV among women in Indonesia

Methods: We were use Indonesia Demographic and Health Survey 2012 to examine the determinants factor related to the knowledge of women about MTCT using bivariate and multivariate logistic regression in SPSS with significant p<0.05

Results: Majority of women knew the transmission of HIV during pregnancy, delivery, and breastfeeding, namely 84.9%, 75% and 82.1%, respectively. However, full, knowledgeable women, only 70.2%. In bivariate analysis, women living in urban, older, wealthier, higher educational level, having two children or less and having more interactions with mass media were more likely to know about three modes of MTCT. Women living in Sulawesi were less likely to know about MTCT than those in other islands. In multivariate analysis, being 35-49, living in urban, being wealthy, frequently reading newspaper were more likely to fully knowledgeable about MTCT of HIV.

Conclusions: Living in rural, economic situations, lower educational level, and less interaction with mass media are essential barriers for women to know about MTCT. Special attention must be put in women from Sulawesi as their group was less knowledgeable than other islands.

Keywords: Determinants factor, knowledge, mother-to-child-transmission of HIV, women in Indonesia
The relation between diet and eating pattern with dyspepsia syndrome on boarding students of Madrasah Aliyah Al-Aziziyyah Putri, Gunungsari, West Nusa Tenggara

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Introduction: Dyspepsia is a common clinical problem. Many patients report their symptoms associated with food consumption. This study aims to determine the relationship between diet and eating pattern with dyspepsia syndrome on boarding students of Madrasah Aliyah Al-Aziziyyah Putri.

Methods: This study method is cross sectional. The respondents are 202 adolescent girls aged between 10-19 years who study in Madrasah Aliyah Al-Aziziyyah Putri and stay in Al-Aziziyyah Islamic Boarding School. The respondents are taken by proportionate stratified sampling technique. The data is obtained through questionnaires. The statistical test is chi-square.

Results: The respondents who consumed irritating diet were 47% (95 people), and the respondents who have irregular eating pattern were 46% (43 people). Dyspepsia syndrome is experienced by 121 respondents (60%). Based on the chi-square test, there is no relationship between diet and dyspepsia syndrome (p=0.239), and there is no relationship between eating pattern and dyspepsia syndrome (p=0.216).

Conclusions: There is no relationship between diet and eating pattern with dyspepsia syndrome on boarding students of Madrasah Aliyah Al-Aziziyyah Putri. Keywords: Diet, eating pattern, dyspepsia syndrome

Profile of intestinal helminths in the stool and rectal swab of asymptomatic children from sub-urban Jakarta

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Background: Parasite can also be found in asymptomatic individuals. An infection which was silent in origin with no- or minimal clinical signs/symptoms are often not realized by the host. Here we presented the result of Parasitology examination of 87 stool samples that came from asymptomatic children living in sub-urban Jakarta.

Methods: A simple cross-sectional study that was funded by our university, conducted from November 2016 to January 2017. Stool samples and anal swabs were collected and prepared for direct Parasitic examination as soon as possible using a light microscope in Eosin, Lugol, and KOH 10% staining; all the results were noted and re-confirm by a trained Laborant. Demographic data of the children also noted.

Results: Out of 87 samples from children with mean age 11 years old and most of them (60 children/69%) came from low socio-economy level family. Laboratory result showed that ten children (11.5%) infected with intestinal helmith. From those infected with intestinal helmith, 30% were infected by Trichuris trichiura and 70% by Oxyuris vermicularis.

Conclusions: Even in asymptomatic individual, we still can found intestinal helmith infection. Keywords: Nematode, Trichuris trichiura, Oxyuris vermicularis, soil-transmitted helmiths, parasite

Characteristic of extrapulmonary tuberculosis with fine needle aspiration biopsy methods in West Nusa Tenggara Indonesia

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Background: Diagnose of extrapulmonary tuberculosis (EPTB) remain challenging all over the world, including Indonesia. WHO Report 2018 said 58% under-reported EPTB’s cases in Indonesia. Fine needle aspiration biopsy (FNAB) is fast, noninvasive, less pain with a minimal side effect and no need anesthesia to diagnose EPTB in surface bodies nodule. The result of FNAB in one hour or faster, than histopathology examination. Diagnose microscopic of EPTB consist of necrotic materials, epithelioid cells, or datia Langhans. This study aimed to define the characteristic of EPTB with FNAB methods in West Nusa Tenggara from 2013 to 2018.

Methods: A descriptive observational study from January to March 2019 using patients’ data of EPTB in January 2013 until December 2018 at pathology anatomic laboratory in Siti Hajar Hospital Mataram and West Nusa Tenggara General Hospital. The result examination of FNAB from 283 patients was reviewed.

Result: The most EPTB location is coli region in 247 patients (87.2%) and mammea in 21 patients (7.4%) in 31-40 group of age (22.9 %), dominated by women with 175 patients (61.8%) and 100 patients from Lombok Barat is the highest burden location in West Nusa Tenggara (35.3%). 131 patients (46.2%) with multiple nodule. In microscopic examination showed necrotic materials in 233 slides (82.3%), epithelioid cells 198 slides (69.9%), histiocite cells in 103 slides (36.3%), datia Langhans cells only in 4 slides (1.4%), polymorphonuclear cells in 34 slides (12.0%) and mature lymphoid cells in 78 slides (27.5%).

Conclusions: Diagnosis EPTB remain challenging so still need a lot of effort from everyone and every new tool like genexpert to end TB in Indonesia 2030. Keywords: extrapulmonary TB, lymphadentitis tuberculosis, FNAB, tuberculosis in West Nusa Tenggara Indonesia
**ABSTRACT**

The profile of diet, daily values and nutritional status of the students of medical faculty, Universitas Mataram, West Nusa Tenggara

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Background: Nutritional problem including undernutrition, overweight, and obesity is still a challenge even in a developed or developing country. The inadequate diet pattern might cause this problem. The healthy diet pattern produces good energy needed by a healthy body. Nutritional factors play an important role in developing human resources, the quality of life by strengthening life expectancy. The students of medical faculty represented as a group of people who relatively have better nutritional awareness and knowledge. However, some studies showed some university students have unhealthy diet pattern and eating habits. These might be caused by the academic bustle, limited food choice surrounding the campus, and choosing the affordable food. This study aimed to evaluate the profile of diet, daily values, and nutritional status of medical faculty students, Universitas Mataram, West Nusa Tenggara.

Methods: This study is a descriptive analytic with cross sectional design. Subjects were the student of medical faculty who met the inclusion and exclusion criteria by consecutive sampling method. Diet pattern, daily values, and nutritional status were measured based on the data from 24-hour food recall and Nutrisurvey software.

Results: There were 38 students (43.18%) with healthy diet pattern, and around 50 students (56.82%) had an unhealthy diet pattern. Also, 42 students (47.73%) had good daily values of nutrition, and 46 students (52.27%) with poor daily values of nutrition. Around 18 students (20.45%) were overweight, 58 students were normal, 8 students were (9.09%) overweight, 4 students (4.54%) were obese.

Conclusion: Most of the students had an unhealthy diet pattern and poor daily values of nutrition. However, most of them had a normal nutritional status.

Keywords: Diet pattern, daily values, nutritional status, medical students

Current situation of child marriage

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Background: The slowly declining of child marriage across regions and countries are predicting the actual numbers remain virtually the same in over next few decades, occasionally reside violation of human rights, particularly the girls. Understanding its current situation, consequences, existed intervention programs and policies, rather challenges in the different country’s setting may be rewarding.

Methods: Subjects have been collected from papers of scientific journals, proceeding reports, books, general database, and other grey literature. The Boolean Logic and survey paper technique were used during data collecting and analysis. USAID investment frameworks utilized to identify the challenges.

Results: One in three women aged 20-24 years married before reach 18 years of age. Vietnam and Bangladesh hold the lowest and highest incidence and the child marriage gap. A significant decline in rates showed by countries in the region. Health and other non-health indicators resulted in consequences. Insufficient programs for ending the practice found. Inconsistent law of Indonesian’s minimum age, the shifting communication in technology, and previous child marriage generation became the challenges, while persistent norms in ethnic minorities still come off in Vietnam.

Conclusion: The trend of child marriage will remain increasing. Education and poverty are the vice versa factors of child marriage. Empowering girls directly tend to be a more promising strategy, despite being in a different challenge situation.

Keywords: child marriage, violation of human rights, empowering girls

Recent progress of research on ethnomedical plants used in Lombok

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Background: This work reports on the recent progress of an ethnomedicinal study in Eastern and Northern part Lombok Island. The study focused on the exploration and documenting traditional medicinal plants species, parts used, mode of preparation, and delivery by local communities in Lombok island to treat human diseases.

Methods: The information was collected through interview and discussion amongst healers and elderly in Lombok. Plant specimens were collected from field observation, and herbarium was made to aid the species confirmation. A total of 61 plant species with medicinal use was recorded for 30 medicinal use was recorded for 30

Results: A total of 61 plant species with medicinal use was recorded for 30 human ailments, mostly for lowering blood glucose (12.9%) and malaria (8.8%). The majority of remedies using leaves (47.5%), rhizome (13.1%), fruits (14.7%), tuber and seeds (6.5%) and others (11.7) with the most common application was the direct application with crushed plant parts or by the decoction of the herbs. The study showed that peoples in Lombok island have a rich knowledge of medicinal plants, but the efficacy and the safety of the plants must be evaluated scientifically before recommending them for wider use.

Conclusion: This research is not yet finished, and our team will continue to record, preserve, and develop the resources from ethnomedical knowledge in Lombok Island.

Keywords: Ethnomedicine, plants, Lombok, blood glucose, malaria

Multiple DNA fragments construction of latency-associated M. Tuberculosis antigen using overlapping PCR method

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Background: Latent tuberculosis infection (LTBI) is defined as a state of the persistent immune response to stimulation by M. tuberculosis antigens without evidence of clinically manifested active tuberculosis (TB). Diagnosis and treatment for LTBI are important as part of the End TB Strategy for eliminating TB by 2050. Recently, several proteins constructed from multiple fragment antigens were used for diagnostic or therapeutic purposes of increasing their activity. This research aimed to multiple assembly fragments of latency-associated M. tuberculosis antigen using an overlapping PCR method.

Methods: Genomic DNA of Mycobacterium tuberculosis (H37RV strain) was isolated and served as a template for amplification of Rv1733, Rv2389, and ESAT6 fragment. To construct multiple DNA fragments, special primers were designed to generate template DNA with 15 base pairs of identical sequences on the end of other DNA fragment. Overlapping PCR was conducted in two steps PCR. In the first PCR, the three fragments served as template simultaneously for amplification without primer. The multiple DNA fragments were extended by overlap sequence that is complementary to the end of other fragment DNA to be joined. In the second PCR, amplification was carried out with only the primers for the far ends. The PCR product was run on an agarose gel and observed in UV light.

Results: Multiple fragments contain Rv1733, Rv2389, and ESAT6 of M. tuberculosis was successfully constructed using overlapping PCR method.

Conclusion: This method is a simple and efficient technique to facilitate various kinds of complex genetic engineering projects that require the assembly of multiple fragments.

Keywords: Multiple DNA fragments, Rv1733, Rv2389, ESAT6, overlapping PCR

Anticoagulant activity of mangrove (Avicennia alba) leaves extract in vitro

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Background: Mangroves contain flavonoid and sulfate compounds that have the potential as anticoagulants. This study aimed to determine the anticoagulant activity of mangrove leaves (Avicennia alba) in human blood cells in vitro.

Methods: Avicennia alba leaves collected from Ekas Lake, East Lombok were macerated with 96% ethanol (3x24h). The extract was then fractionated to obtain the n-hexane, chloroform, and residual fractions. The anticoagulant activity of ethanol extract and the three fractions were tested in vitro to 5 human blood samples by the method of Lee-White and Eustrek, compared to heparin as a positive control.

Results: Phytochemical screening of the ethanol extract indicated that the extract contains alkaloids, tannin, saponin, flavonoids, sulfate, and terpenoid. The results of the Lee-White method were the ethanol extract (1 mg/mL), and three fractions (0.5 mg/mL) have anticoagulant activity. Statistical analysis showed that the anticoagulant activity of the ethanol extract was significantly different (p<0.05) compared to the normal group and fractions and were not significantly different (p>0.05) compared to heparin.

Conclusion: Microscopic observation showed that the ethanol extract preserved the blood cells shape better than the three fractions after 20, 60, and 240 minutes of observation.

Keywords: Mangrove (Avicennia alba) leaves, anticoagulant, Lee White and Eustrek method

Optimization of hand sanitizer gel formula of Tekelan leaves extract (Chromolaena odorata (L.)) using simplex lattice design method

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Background: Chromolaena odorata has been commonly used traditionally as a medicine. It is known that leaves from C. odorata have bioactivity as an antibacterial. These leaves have antibacterial activity for both gram positive and negative bacteria so that it can be made for semi-solid preparation, namely hand sanitizer gel (HSG). The purpose of this study is to determine the optimum concentration of glycerin, triethanolamine (TEA), and carbopol as major components of HSG base and also determine physical characteristics of the optimum formula.

Methods: Optimization of the gel is conducted with the simplex lattice design (SLD) method. SLD method is available in Design Expert software. The method was designed to optimize the formula with different concentration of different component (glycerin, TEA, and carbopol) so it can produce the optimum formula. The evaluation of HSG involves spreadability test, sticky power, and pH test. Furthermore, the acceptability evaluation was done by 20 respondents.

Results: The optimum gel base formula is consists of 1.860% glycerin, 2.901% TEA, and 0.739% carbopol with predicted spreadability 3.673 cm, sticky power 1.181 s, and pH 7.187. The acceptability of the C. odorata HSG also compared with one of the commercial HSG. The percentage of acceptability of C. odorata HSG is 75.25% and 80.25% for the commercial HSG.

Conclusion: The optimum formula of C. odorata HSG produces a good physical characteristic and good category of acceptability.

Keywords: Chromolaena odorata, hand sanitizer, optimization, simplex lattice design, SLD

Relationship of mercury exposure duration with lung function in elementary school children in artisanal and small scale gold mining areas in Sekotong Subdistrict, West Lombok District

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Background: Mercury is used in one of the gold processing. When mercury is heated, toxic mercury vapor will emerge. Inhaled mercury vapors can negatively affect the lungs, that is reduced vital capacity due to restriction and obstruction of the airways. The pulmonary function can be assessed by performing a spirometry examination by looking at the FEV1, FVC, and FEV1/FVC ratio values. This study aims to determine the relationship of mercury exposure duration to pulmonary function in elementary school children in artisanal and small scale gold mining (ASGM) areas.

Method: This study used a cross-sectional method involving 32 elementary school students who are eligible for the study criteria. Anthropometry and spirometry measurements were carried out in students. This study used the Pearson and Spearman correlation test.

Results: Out of 32 students, 26 students (81%) had mixed pulmonary disorders, 4 students (13%) had restrictive pulmonary disorders, and 2 students (6%) had normal pulmonary function. Correlation test showed that there was no significant relationship between the duration of exposure to mercury and pulmonary function of children (FEV1, p = 0.076; r = 0.318, FVC p = 0.076; r = 0.318, FEV1/FVC p = 0.606; r = 0.095).

Conclusion: There is no relationship between the duration of mercury exposure and pulmonary function in relationship between the duration of mercury exposure and pulmonary function in elementary school children in small-scale gold mining areas.

Keywords: Duration of mercury exposure, small-scale gold mining, pulmonary function, children

Development and assessment of validity and reliability of a dengue knowledge, attitude, and practice (KAP) questionnaire for primary school teachers

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Background: Dengue hemorrhagic fever (DHF) is a neglected infectious disease yet remains a problem in the tropics with school-aged children as one of the predominant age group affected. Hence, school-based preventions of DHF are essential. This study was a part of a multi-phase dengue school-based intervention study. This study aimed to develop a Dengue KAP (knowledge, attitudes, and practices) questionnaire for primary school teachers and to assess its validity and reliability.

Methods: Item development of the questionnaire employed a deductive method consist of a literature review and assessment of existing Dengue KAP questionnaires. The first draft of the questionnaire was evaluated by six members of an expert panel to assess content validity and to gain feedback for revision. Assessment of reliability was carried out using Cronbach's alpha as a measure of internal consistency, and corrected-item-to-total correlation was used to guide item reduction. The participants were 120 primary school teachers in Mataram selected using stratified random sampling technique.

Result: Total of 9, 16, and 10 items under the domain of knowledge, attitude, and practice showed corrected-item-to-total correlation > 0.3. The Cronbach's alpha for reliability in knowledge, attitude, and practice domain were 0.681, 0.906, and 0.738 respectively. The results indicate that the Cronbach's alpha coefficients showed acceptable and satisfactory internal consistencies.

Conclusion: The Dengue KAP questionnaire for teachers developed in this study showed acceptable reliability and content validity. However, further refinement of low corrected item-total correlation items and assessment of construct validity assessment are needed.

Keywords: Dengue, validity, reliability, KAP questionnaire

Review of forensic and medicolegal aspects of traffic accident cases due to alcohol consumption

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Background: Alcohol causes degradation of awareness and disorientation to time, places, and people. This study aims to investigate alcohol consumption as a factor that causes motorized vehicle traffic accidents.

Methods: This study is an observational study with a cross-sectional approach conducted for eight months, covering April to December of 2017 at Bhayangkara Hospital Mataram and the General Hospital of West Nusa Tenggara Province. The number of samples was a minimum of 92 patients that met inclusion and exclusion criteria. Alcohol was detected using an alcohol detector Alcoscan Al6000.

Results: The study showed that 114 patients at the Emergency Units of Bhayangkara Hospital and the General Hospital of NTB Province were willing to have alcohol examination. Out of the number, 97 patients had composites mental scale awareness, and 17 had a degrading awareness level. Out of the 97 patients tested for breathed air, two positively had alcohol in their breath with 0.11% of BAC. Out of 17 unconscious patients, 16 had no alcoholic odor in their breath, while one had an alcoholic odor. Also, 16 patients had full composites mental awareness but rejected to undergo alcohol examination, although the researcher smelled the alcoholic odor in their breaths.

Conclusion: Alcohol consumption is of the risk factors of traffic accidents. For this reason, a prevention protocol is necessary.

Keywords: alcohol consumption, traffic accident, forensic
The correlation between level of knowledge and behavior to malaria disease prevention in Sambelia District, East Lombok

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Background: Malaria is an infectious disease that has been becoming health problem facing several countries including Indonesia, one of which is in East Lombok, West Nusa Tenggara. In 2016 there was a significant increase of malaria cases in East Lombok with highest number of case was found in Sambelia District, 256 cases reported. The purpose of this study is to determine correlation between level of knowledge and behavior to malaria disease prevention in Sambelia District, East Lombok.

Methods: It is an analyzed descriptive study with cross sectional design to fifty five respondents which had obtained through consecutive sampling. Subject selected from population who had been diagnosed malaria from 2016 - 2017 at two primary health centre namely Sambelia and Belanting Primary Health Centre. The data had been collected using questionnaire or structured interview. Collected data were analyzed using Spearman non-parametric correlation test.

Results: Most respondents have sufficient knowledge (63.6%), followed by respondents who have good knowledge (20%) and poor knowledge (16.4%). Most of the respondents have sufficient behavior (60%), respondents who have good and poor behavior have the same proportion (20%). Based on correlation test, there is no significant correlation between knowledge and behavior of malaria prevention (p=0.078 and r=0.239).

Conclusion: The largest proportion of respondents’ knowledge and behavior related to malaria are in sufficient criteria.

Keywords: Knowledge, behavior, malaria

Development of educative dengue boardgame for supporting elementary schools children in mosquito breeding place eradication program at school

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Background: Dengue fever remains a global health issue. Dengue prevention and intervention program have been introduced since many years ago, but morbidity and mortality rate, especially in children still high. The structure of Indonesian society which comprise dominantly of children; therefore, it becomes a potential resource in conducting dengue interventions in the community. Previous research has shown the promising result when children are involved in preventing vector-borne disease through a school-based intervention, as larva monitors or known as Juru Pemantau Jentik (Jumantik). In the other hand, the board game is a potential alternative educational media that can improve children's cognitive and skills towards efforts to prevent dengue fever. In this study, we describe the development process of a serious game, followed by content and user experience analysis through game playtest.

Methods: This was a research and development study to develop educative boardgame for elementary school children. First, we develop a preliminary form of product, then followed by field testing to evaluate the main aspect of the educative boardgame, consists of learning layer, storytelling layer, and gameplay layer.

Results: A prototype of educative boardgame “Jumantik” was created to facilitate elementary school children's learning and understanding about mosquito breeding place eradication program at school. It was a card game, including three main mechanics that can be played by 2-4 children in 30 minutes. In this game, children must be found potential breeding sites of Aedes aegypti and choose appropriate action for each. Field testing showed that Jumantik most suitable for 4-6th-grade elementary school children. Graphic design was attractive, easy to play, and can encourage children's knowledge about dengue and mosquito eradication program at school. Improvement of the visual aspect was needed, especially its box packaging.

Conclusion: "Jumantik" boardgame can be used as dengue education tools about mosquito breeding place eradication program for elementary school children. An improvement of the board game was needed for final revision before community usage.

Keywords: educative boardgame, jumantik, mosquito breeding place eradication, children, dengue