

PUBLIKASI JURNAL

Activity of Garlic (*Allium Sativum*) Methanol Extract as an Inhibitor of Biofilm Formation on Methicillin-Resistant *Staphylococcus aureus* (MRSA)

**Dr. dr. Enny Suswati, MKes
NIP 197002141999032001**

**. Staf Pengajar Lab. Mikrobiologi
. Fakultas Kedokteran Universitas Jember**



**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET DAN TEKNOLOGI**

UNIVERSITAS JEMBER

**Karya Ilmiah dipresentasikan pada:
International 4th Usim International Health E-
Conference (IHEC) 16-17 Desember 2020 Malaysia**

MALAYSIAN JOURNAL OF

Medicine and Health Sciences

Vol. 17 No. SUPP1 / Jan 2021

Supplementary Issue:

**4TH USIM INTERNATIONAL HEALTH E-
CONFERENCE 2020 (IHEC 2020) IN
CONJUNCTION WITH THE 3RD INTERNATIONAL
CONFERENCE ON MEDICINE AND HEALTH
SCIENCES (ICMHS)**

16th – 17th December 2020

Malaysian Journal of Medicine and Health Sciences Vol. 16 No. SUPP12, Nov 2020



Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Malaysia
<http://medic.upm.edu.my/>

UPM Press
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Malaysia
<http://penerbit.upm.edu.my>

PENERBIT
UPM
UNIVERSITI PUTRA MALAYSIA
P R E S S



A scientific journal published by Universiti Putra Malaysia Press

About the Journal

The Malaysian Journal of Medicine and Health Sciences (MJMHS) is published by the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. The main aim of the MJMHS is to be a premier journal on all aspects of medicine and health sciences in Malaysia and internationally. The focus of the MJMHS will be on results of original scientific research and development, emerging issues and policy analyses pertaining to medical, biomedical and clinical sciences. The Malaysian Journal of Medicine and Health Sciences is now indexed in the following data bases: Scopus, EBSCOhost, ISC, and Rubriq.

Editorial Board

Editor in Chief:

Prof. Dr. Normala Ibrahim

Members:

Prof. Dr. Rukman Awang Hamat

Prof. Dr. Christopher Lim Thiam Seong

Assoc. Prof. Dr. Rajesh Ramasamy

Assoc. Prof. Dr. Sharmili Vidyadaran

Assoc. Prof. Dr. Sethu Thakachy Subha

Assoc. Prof. Dr. Loh Su Peng

Assoc. Prof. Dr. Nor Afiah Mohd Zulkefli

Assoc. Prof. Dr. Wan Aliaa Wan Sulaiman

Assoc. Prof. Dr. Ling King Hwa

Assoc. Prof. Dr. Habibah Abdul Hamid

Assoc. Prof. Dr. Zubaidah Nor Hanipah

Assoc. Prof. Dr. Ching Siew Mooi

Assoc. Prof. Dr. Intan Hakimah Ismail

Prof. Madya Dr. Ho Yu Bin

Prof. Madya Dr. Karmegam Karuppiah

Prof. Madya Dr. Subapriya Suppiah

Technical Coordinator:

Dr. Tan Kit Aun

International Advisory Board

Prof. Dr. Pierce Anthony Grace

Prof. Dr. David Isaacs

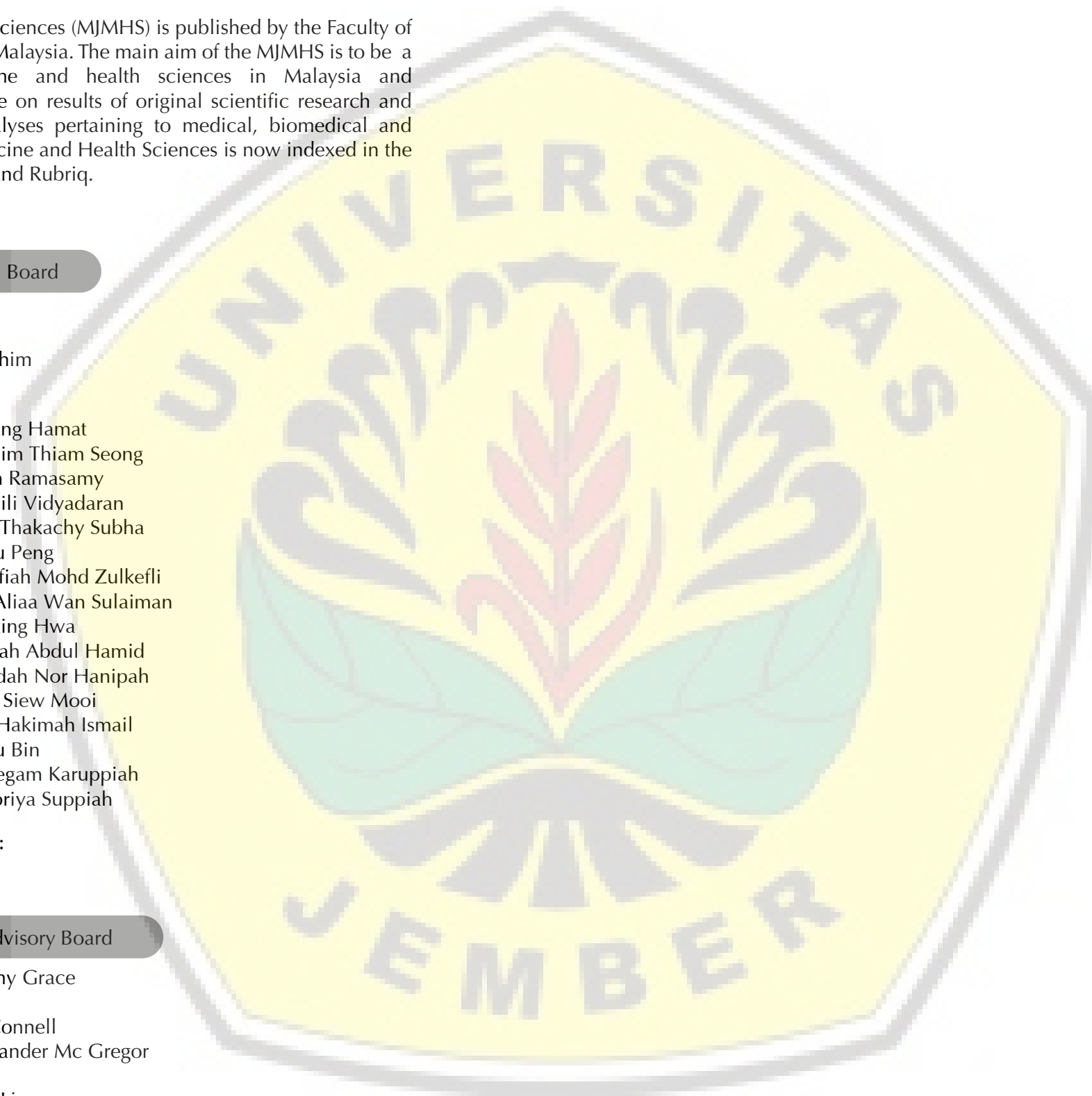
Prof. Dr. P. Ronan O'Connell

Prof. Dr. Graham Alexander Mc Gregor

Prof. Dr. Tan Ser Kiat

Prof. Dr. Gregory Y.H. Lip

Prof. Dr. Roger Pepperell



**ABSTRACT FOR 4TH USIM INTERNATIONAL HEALTH
E-CONFERENCE 2020 (IHEC 2020) IN CONJUNCTION WITH
THE 3RD INTERNATIONAL CONFERENCE ON MEDICINE
AND HEALTH SCIENCES (ICMHS)**

Healthcare In A Pandemic Era: The New Norm

Held as Webinar from 16th – 17th December 2020

**FACULTY OF MEDICINE AND HEALTH SCIENCES
UNIVERSITI SAINS ISLAM MALAYSIA**



Editorial Information

Scientific Committee/Abstract Editors

Dr. Tengku Amatullah Madeehah T. Mohd (Head)
Dr. Nor Eyzawiah Binti Hassan
Prof. Datuk Dr. Ainoon Othman
Prof. Datin Dr. Che Ilina Binti Che Isahak
Prof. Dato' Dr. Muhammad Tauffik Mohd Noor
Prof. Dr. Hayati Abd Rahman
Prof. Dr. Mohd Fadzillah Bin Abdul Razak
Associate Prof. Dr. Nazefah Binti Abdul Hamid
Associate Prof. Dr. Nurul Azmawati Mohamed
Associate Prof. Dr. Mohd Dzulkhairi Mohd Rani
Associate Prof. Dr. Zairina A. Rahman
Associate Prof. Dr. Maizatul Azma Masri
Associate Prof. Dr. Mohd Azmani Sahar
Dr. Siva Gowri Pathmanathan
Dr. Khairun Nain Nor Aripin
Dr. Nadeeya'ayn Umaisara Mohd Nor
Dr. Mohd Rahman Omar
Dr. Wan Noraini Binti Wan Sulaiman
Dr. Liyana Binti Azmi
Dr. Marlina Binti Muhamad
Dr. Maimunah Binti Abdul Muna'aim
Dr. Nur Fariha Binti Mohd Manzor
Dr. Nuruliza Binti Roslan
Dr. Nadia Mohd Effendy
Dr Sharifah Najwa Syed Mohamad
Dr Alina Md Fauzi
Dr Fathima Begum Syed Mohideen
Dr. Amirah Azzeri



TABLE OF CONTENTS

Abstract No	Title	Page
OP1.1	The Effect Of Patient Satisfaction Toward Patient Loyalty In Hasanuddin University Hospital.	1
OP1.2	Hoax News and Sources of Information for COVID-19 in Head of RT (Rukun Tetangga) Klaten, Central Java, Indonesia.	2
OP1.3	A Pilot Study of Knowledge, Attitudes and Practices (KAP) among Higher Education Institutions Students on Healthy Online Gaming in Malaysia, during Movement Control Order (MCO).	3
OP1.4	Prediction of Disease Burden And Healthcare Resource Utilization Through Simple Predictive Analytics Using Mathematical Approaches, An Experience From University Malaya Medical Centre.	4
OP1.5	Clinical and Epidemiological Features of COVID-19 Infected Patients in Pasir Puteh, Kelantan, Malaysia: A Retrospective Epidemiological Assessment.	5
OP1.6	Large-scale Social Restrictions Policy Impact on COVID-19 Developments in Indonesia.	6
OP1.7	Loneliness among Older Adults during COVID-19: A Scoping Review.	7
OP1.8	The Epidemiological Characteristics of COVID-19 Cases in North-eastern Peninsular Malaysia, January to July 2020.	8
OP1.9	A Systematic Review on MicroRNA Profile of Various Samples from Patients with Autism Spectrum Disorder.	9
OP1.10	Advocacy of COVID-19 Health Promotion Media in Tobacco Agricultural Communities.	10
OP1.11	Analysing Epidemic-Related Verses in The Quran Based on Al-Razi' Exegesis in His Magnum Opus <i>Mafatih Al-Ghayb</i> .	11
OP1.12	Cik Kiah Sewing Project: Production of Personal Protective Clothing for Frontline Personnel Fighting COVID-19.	12
OP2.1	Pesticide Exposure to Blood Cholinesterase Levels in Tobacco Farmers in Jember Regency.	13
OP2.2	Workflow Modification during COVID-19 Pandemic: Experience from a Malaysian Radiology Department.	14
OP2.3	Public Perceives and Responses to Health Information on Social Media during COVID-19 Pandemic: A Potential Medium for Health Education.	15
OP2.4	COVID-19 Pandemic: An Opportunity for Better Participation, Easier Data Collection and Cost Reduction for an Online Tracer Study.	16
OP2.5	Stress Level Among Teachers of Landang Elementary School at Bantaeng Regency in the COVID-19 Pandemic Era.	17
OP2.6	The Coincidence of Dengue and COVID-19 in Pandemic: Report of Cases, Public Health and Humanism.	18
OP2.7	Infection Control of COVID-19, How Consistent is The Medical Perspective and The Islamic Perspective?	19
OP2.8	Self-Made Face Shield training in the women's social community represented one of the efforts to face the new adaptation era of COVID-19.	20
OP2.9	Face Mask Etiquette and Care: A Preliminary Case Study in Universiti Sains Islam Malaysia during The COVID-19 Pandemic.	21
OP2.10	Harnessing Online Platform for COVID-19 Promotion, Prevention, and Early Detection in University of Jember.	22
OP2.11	Prevention of COVID-19 Transmission through the Fishermen's Resilient Village Program.	23
OP2.12	Services and Policies for A New Lifestyle During the COVID-19 Pandemic in the Section for Prevention and Control of Infectious Diseases of Bondowoso District Health Office.	24
OP3.1	COVID-19 in children with Cancer: A Review of Case Reports.	25
OP3.2	Movement Controlled Order: The Impact on Management of Glaucoma in a Sub-urban Tertiary Centre in Malaysia.	26
OP3.3	Tracheostomy Procedure During Pandemic COVID-19: Controversial Issues and Challenges; Does It Benefit?	27
OP3.4	Challenges of Indonesia's Plastic Surgery Services in The Era of The COVID_19 Pandemic: a Narrative Study.	28
OP3.5	COVID-19 and Speech-Language Therapy in Malaysia – Challenges Faced and Adaptations During the Early Phase of The Pandemic.	29
OP3.6	Gram-negative Bacteria as the Primary Cause of Secondary Bacterial Infection in COVID-19: A Systematic Review.	30
OP3.7	Correlation Study between BMI and Hyperlaxity of Joints in a Group of Young Female Adults.	31
OP3.8	Cerebral Venous Thrombosis in the COVID-19 Patient: A Systematic Review.	32
OP3.9	The Contentious Management of Anaplastic Thyroid Carcinoma Versus COVID-19	33
OP3.10	Ethnopharmacy Study at Osing Tribe in Benelan Lor Village, Banyuwangi Regency: Exploring Potential Medicinal Plants COVID-19 Therapy.	34
OP3.11	The Role of Circadian Rhythm on Distress and Anxiety Regulation in Elderly People during the COVID-19 Pandemic.	35
OP3.12	Aerosol Box – Adapting to the New Norm.	36
OP4.1	Student Performance During Online Tutorial Session in Problem-Based Learning Methods.	37
OP4.2	Vigilance Assessment of Higher Education Institute Population During Alert Phase of The COVID-19 Pandemic for Prompt Preparedness and Response.	38
OP4.3	COVID-19 Teachers' Dilemma: The Past, The Present and The Future.	39

TABLE OF CONTENTS

Abstract No	Title	Page
OP4.4	Impact of COVID-19 Pandemic to Dental Education: A Narrative Review.	40
OP4.5	Assessment of Psychological Wellness during COVID-19 Pandemic among USIM's Dental Students.	41
OP4.6	Implementation of E-Learning in Universiti Sains Islam Malaysia (USIM) Dental School During The COVID-19 Pandemic Crisis.	42
OP4.7	The Use of Simulated Patients in Objective Structured Clinical Examination During COVID-19 Pandemic: Report of an Initial Experience.	43
OP4.8	The S-protein Point Mutations of SARS-CoV-2 in Indonesian COVID-19 Patients.	44
OP4.9	Neutrophil to Lymphocyte Ratio, Platelet to Lymphocyte Ratio and Absolute Lymphocyte Count in Coronavirus Disease Patients.	45
OP4.10	Parasite Immunomodulation in Endemic Countries: Does it Affect The Prevalence of COVID-19?	46
OP4.11	The Provision of Self-medication Assistance and Complementary and Alternative Medicine (CAM) Services in Community Pharmacy: An Insight to New Normal Pharmacy Practice.	47
OP5.1	Current Update on Novel Therapeutic Strategy for Severe and Critical COVID-19 Patients: A Systematic Review of Mesenchymal Stem Cells (MSCs) Therapeutic Outcome in COVID-19 Associated Acute Respiratory Distress Syndrome.	48
OP5.2	Preparation For High Stake Undergraduate Medical School Examination During COVID-19: Students' Perspectives.	49
OP5.3	The Effectiveness of Mobile Apps in Healthcare Management and COVID-19 Pandemic.	50
OP5.4	A Systematic Review on Knowledge, Attitude And Practice Towards COVID-19 Among Medical Students.	51
OP5.5	Challenges in Medical Education During The COVID-19 Pandemic: Students' Perspectives from a Malaysian Institution.	52
OP5.6	Psychological Impact of the COVID-19 Pandemic among Undergraduate Students: A Systematic Review.	53
OP5.7	Knowledge, Attitudes And Practices On COVID-19 Pandemic, The Online Learning Readiness, And Psychological Wellbeing Among Medical Students In A Public University: A Study Protocol	54
OP5.8	Psychological Impact Of COVID-19 Among Medical Students In A Public Higher Institution In Malaysia..	55
OP5.9	Impacts of COVID-19 Pandemic on Anxiety among Undergraduate and Clerkship Medical Students.	56
OP5.10	Nasopharyngeal and Oropharyngeal Swab Sampling for The Diagnosis of COVID-19 in Large Scale Screening Centres; Which Method Do We Prefer?	57
OP5.11	Postpartum Care During COVID-19: The New Norm.	58
OP5.12	Online Learning Readiness Among Medical Students in The Wake of COVID-19 The Pandemic.	59
OP5.13	Awareness of Basic Life Support and its Associated Factors among Non-Medical Undergraduates, in a Private University, Kajang, Malaysia: A Cross-Sectional Study.	60
PP1.1	Proper Hand Hygiene Can Reduce The Risk of Transmission COVID-19 and The Occurrence of Hand Dermatitis.	61
PP1.2	COVID-19 Negative with Similar Chest Radiograph Changes in an Immunocompromised Patient: A Diagnosis Not to Be Missed.	62
PP1.3	Home Visit of Village Midwives And Pregnancy Women in Coronavirus (COVID-19) Pandemic, Is This an Accurate Action? An Observational Study.	63
PP1.4	Detection of SARS-Cov-2 Viral Load in Saliva Collected from Asymptomatic Patients: A Scoping Review.	64
PP1.5	Tai Chi in Maintaining General Health among the Elderly during The COVID-19 Pandemic.	65
PP1.6	Exploratory Study: The Impact of COVID-19 Pandemic on The Unemployment Rate in Malaysian Industries.	66
PP1.7	Challenges in Conducting Medical and Life Science Research During COVID-19.	67
PP1.8	Systematic Review on Online Learning Readiness Among Undergraduate Students	68
PP1.9	Accustoming Hybrid Teaching and Learning Activities for Internal Medicine During The Movement Control Order in The COVID-19 Pandemic.	69
PP1.10	COVID-19 Cluster Outbreak at Madrasah An-Nabawiyah In Kampung Sungai Lui, Hulu Langat.	70
PP1.11	The Challenges of Mask Wearing Among USIM Medical Students During the Pandemic of COVID-19.	71
PP1.12	Preoperative COVID-19 Screening in Otorhinolaryngology Head And Neck Elective Surgery - The Malaysian Guidelines.	72
PP1.13	The Road to a Safe and Effective Peptide-based COVID-19 Vaccine.	73
PP1.14	The Utilisation of Moringa Leaf Flour and Catfish to Fish Ball for Improving Nutritional Status during The COVID-19 Pandemic	74
PP1.15	Psychological Responses and Coping Strategies among Medical Students during Lockdown for The COVID-19 Pandemic in Malaysia.	75
PP1.16	Pre-Clinical Validation of 3D-Printed Swabs for COVID-19 Specimen Collection: A Multicentre Collaboration.	76

TABLE OF CONTENTS

Abstract No	Title	Page
PP1.17	A Reliability and Validity of an Instrument to Evaluate Knowledge, Attitude and Practice towards Measures for Preventing the Spread of COVID-19 in Malaysia: A Pilot Study.	77
PP1.19	The In-Vitro Anti-viral Study of Dual Combinations of Lopinavir/Ritonavir and Azithromycin against SARS-CoV-2 Virus Isolated from Hospitalised Patients in Surabaya, Indonesia.	78
PP1.20	Mental Health as an Urgent Priority: Strategies for the Prevention and Management of Mental Health due to Coronavirus Disease by The Psychiatry and Mental Health Unit of Hospital Tengku Ampuan Jemaah (HTAJ).	79
OP6.1	<i>Kepuh (Sterculia foetida L.)</i> Leaves Ethanolic Extract Decreases AST and ALT Level on High Fat Diet-Induced Rat.	80
OP6.2	Determination of Total Phenolic Content and Classification Models of Crystal Guava Leaves Powder (<i>Psidium guajava L.</i>) from Different Altitudes Using NIR Spectroscopy Method and Chemometrics.	81
OP6.3	The Relationship Between Parenting of Young Mother and Nutritional Status among Under-Five Children in Public Health Canter of Panti, Jember Regency, Indonesia.	82
OP6.4	Animal Model Diabetes Sepsis on Wistar Rat Strain (<i>Rattus norvegicus</i>) Induced by Streptozotocin and Bacteria <i>Staphylococcus aureus</i> Based on Leukocytes and E-cadherin Levels.	83
OP6.5	Role of Data and Safety Monitoring Boards (DSMBs) in Protecting Participants: Preliminary Review of Suspended and Terminated COVID-19 Trials.	84
OP6.6	Inhibition of MCF-7 Proliferation by Stingless Bee Honey: The Role of MicroRNA.	85
OP6.7	MicroRNA as a potential chronic myeloid leukaemia treatment: An In-silico Analysis.	86
OP6.8	The Correlation Between Serum Vitamin D Level and Anti-dsDNA Antibody Titers in Systemic Lupus Erythematosus Patients.	87
OP6.9	The Relationship Between Nutrition Knowledge And Fast Food Consumption Habits with Nutrition Status In Medical Faculty of Muhammadiyah Makassar University Batch 2019.	88
OP6.10	Comparison of Conventional Heating and Microwave Irradiation Assisted on Synthesis of Methyl ortho-Methoxycinnamate as Antithrombotic Candidate.	89
OP6.11	Health Literacy and its Correlation with Self Monitoring Blood Glucose in Diabetes Mellitus Type 2 at Outpatient Dr Soebandi Jember Hospital.	90
OP6.13	Comparison between a Commercial Nutritive Liquid Medium and Sterile Distilled Water as The Liquid Part of Biphasic Culture Medium for Leishmaniasis.	91
OP7.1	The Effects of Relaxation Therapy Among Head and Neck Cancer Patients on Quality of Life.	92
OP7.2	Impact of Molecular Response on the survival of patients with B-Lymphoblastic Leukaemia with BCR-ABL1.	93
OP7.3	Clinical Parameters in Diabetic and Non-Diabetic Patients: A Case-Control Study at a Health Clinic In Klang Valley.	94
OP7.4	Otitis Media Effusion and its Association with Early Childhood Caries.	95
OP7.5	A Descriptive Study of The Reaction Time and Muscle Strength of The Male Youth Involved in Esports in Klang Valley.	96
OP7.6	Knowledge and Practice of Mothers on Common Cold Self-Medication in Children Under Five Years.	97
OP7.7	Utilisation Analysis of Referral Health Services in The Indonesian National Health Insurance Program: A Sample of Big Data Analysis.	98
OP7.8	Nursing Implementation for Children with Febrile Seizure.	99
OP7.9	Bilastine for The Treatment of Allergic Rhinitis: A Systematic Review and Meta-Analysis.	100
OP7.10	Traumatic Bilateral Facial Nerve Palsy: A 10 Years Retrospective Study.	101
OP7.11	Challenges in The Management of Refractory Atrial Tachycardia in A Gravid Patient with Dilated Cardiomyopathy - A Case Report.	102
OP7.12	Microdebrider Assisted Turbinoplasty For Nasal Obstruction with Inferior Turbinate Hypertrophy: A Systematic Review and Meta-Analysis.	103
OP8.1	Sex Estimation in Mandible: A CT Scan Study using Geometric Morphometric Method.	104
OP8.2	Students' Self-Confidence Levels and Perceptions Towards Endodontic Learning: A National Survey among Malaysian Dental Schools.	105
OP8.3	The Effectiveness of Arthroscopic Lysis and Lavage (ALL) in the Management of Temporomandibular Joint Internal Derangement: A Systematic Review and Meta-analysis.	106
OP8.4	The Effectiveness of Inhalation Sedation to Reduce Dental Anxiety in Young Children Receiving Dental Treatment.	107
OP8.5	Factors Associated with Dental Plaque Formation among University Undergraduate Students.	108
OP8.6	Compliance of Clinical Staff and Students to Dental Guideline Post COVID-19: Reality or Just Theory?	109
OP8.7	Characterisations and Cytotoxicity of Agnps Beta-Sitosterols Against Various Cancer Cell Lines.	110
OP8.8	Knowledge, Attitude and Practice (KAP) towards Goat Milk among Multicultural Malaysian.	111
OP8.9	Preformulation Studies: The Physicochemical Properties of Salicylamide Substances.	112

TABLE OF CONTENTS

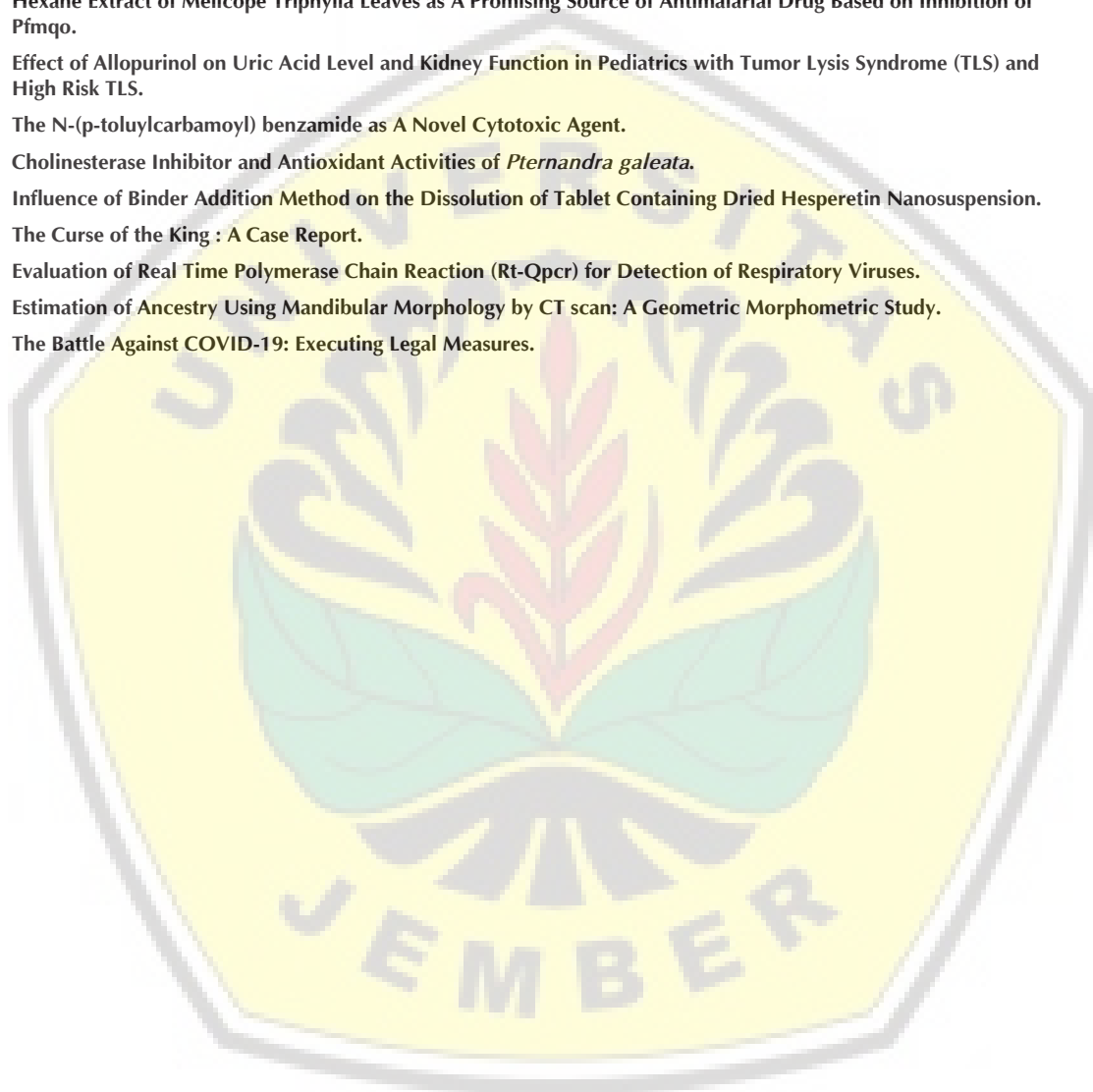
Abstract No	Title	Page
OP8.10	Passion Fruits (<i>Passiflora edulis</i>) Pulp are Potential Sources of Antimicrobial Active Ingredients.	113
OP8.11	Effect of Local Alendronate Bovine Hydroxyapatite Scaffold on Bone Repair in Ovariectomized Rats.	114
OP8.12	In-Vitro Anti-Hepatitis C Virus Activity of <i>Piper crocatum</i> .	115
OP9.1	The Modification of Rice Cake For Diabetes Mellitus in The Elderly.	116
OP9.2	The Relationship Between PHBS and Nutritional Status of Toddlers in Coastal Community in Puger Wetan, Jember Regency.	117
OP9.3	Effect of Zinc Supplementation on Increasing Height and Body Weight of Stunted Children with Cadmium Exposure.	118
OP9.4	Ability to Pay of National Health Insurance Premium Model according to Agricultural and Coastal Communities Expenditures in Jember District.	119
OP9.5	Analysis of Community Needs for the Dengue Vaccine During the COVID-19 Pandemic.	120
OP9.6	The Implementation of the Maternal Mortality Reduction Program in Jember District, East Java.	121
OP9.7	Promotive and Preventive Budget in Indonesia.	122
OP9.8	The Relationship of Self-Efficacy with Patients Family Anxiety in the Intensive Care Unit of Jember Klinik Hospital.	123
OP9.9	The Relationship Between Psychosocial Well-being And Eating Behaviours Among Malay Preschool Children in An Urban Locality In Negeri Sembilan.	124
OP9.10	Hepatoprotective and Lipid-Lowering Effects of <i>Passiflora edulis var. flavicarpa</i> Juice on Alloxan Induced Diabetes Mice.	125
OP9.11	Effect of Red (Rhodophyceae), Brown (Rhodophyceae) and Green (Chlorophyceae) Seaweed Extracts, on Platelet Counts in Diabetic Mice.	126
OP9.12	Knowledge, Attitude and Practice towards COVID-19: USIM Undergraduate Students Case Study.	127
OP10.1	COVID-19 Pandemic: Knowledge, Attitude and Practice from Medical Students' Perspective.	128
OP10.2	School Closure during COVID-19 Outbreak: Parental Attitudes and Their Experiences.	129
OP10.3	Perceived Financial Threat and Psychological Effects on Working Adults in Sarawak During Lockdown for COVID-19 Pandemic.	130
OP10.4	The Perception of Female Medical Students Towards Breast-Self Examination Behaviour With Health Belief Model: A Qualitative Study.	131
OP10.5	A Survey on Knowledge, Initiation and Usage of Electronic Cigarette Among Students in A Private University, Kajang.	132
OP10.6	A Survey on Suicidal Ideation and Attempt in One Private University, Malaysia.	133
OP10.7	Comparison in Effectiveness of Plaque Removal between Manual Toothbrush and Powered Toothbrush in Paediatric Patients.	134
OP10.8	Age Estimation in Malay Population using Mandible from Dental Panoramic Tomography: A 2-Dimensional Geometric Morphometric Analysis.	135
OP10.9	Sex Determination from Orthopantomogram Using Geometric Morphometric Analysis in Malay Population.	136
OP10.10	Comparison of Efficacy and Adverse Effects of Belimumab and Rituximab in Systemic Lupus Erythematosus.	137
OP10.11	A Survey on Students' Knowledge and Consumption Pattern of Bubble Milk Tea in A Private University, Kajang.	138
OP10.12	Review of Childhood Obesity: Socio-demographic, Causes, Consequences and Interventions.	139
OP10.13	Mental Health among Pregnant Mothers in Labour.	140
PP2.1	Bronchiectasis Sicca: An Elusive Cause of Hemoptysis.	141
PP2.2	Potency of Galactosylated Nanoliposome CRISPR/Cas9 (Galnac-NL-CRISPR/Cas9) Modified by Polyethylene Glycol Specific Asialoglycoproteins Receptor to Knockdown ANGPTL3 Gene as A Therapeutic Modality for Atherosclerosis.	142
PP2.3	Female Circumcision in Malaysia: A Scoping Review of The Trends and Practice within The National Context.	143
PP2.4	The Great Imitator : Diabetic Papillopathy.	144
PP2.5	Exercise as Rehabilitation for Parkinson's Disease, A Scoping Review.	145
PP2.7	A Comparative Study of Dental Aesthetic Index (DAI) and Index of Orthodontic Treatment Need (IOTN) Usage Among USIM Dental Students.	146
PP2.8	Students' Perception of Usage of Orthodontic Indices during Clinical Examination.	147
PP2.9	What are Stress Relieving Methods Practiced by Students in Universiti Sains Islam Malaysia (USIM) and Universitas Muhammadiyah Semarang (UNIMUS)?	148
PP2.10	Dentist's Appearance: Does It Matter?	149
PP2.11	The Effectiveness of Composite Resin Restoration in A Growing Child – A Case Report.	150
PP2.12	Stress Responses of <i>Candida spp.</i> Isolated From Tracheoesophageal Speech Valves Biofilm	151

TABLE OF CONTENTS

Abstract No	Title	Page
PP2.13	Impact of Coronal Restoration on The Outcome of Root Canal Treatment: A Retrospective Study.	152
PP2.14	Periodontal Health Awareness among Public University Students.	153
PP2.15	Miswak Pulp Powder as Dentifrice.	154
PP2.16	Mother's Knowledge of Diarrhoea Self-Medication in Children Under Five.	155
PP2.17	Testosterone Down-Regulates The Expression of Cystic Fibrosis Transmembrane Regulator (CFTR) in Adult Female Rats Uterus.	156
PP2.18	Student's Perception of Anatomy Online Learning during COVID-19 Pandemic in Universiti Sains Islam Malaysia (USIM).	157
PP2.19	Knowledge and Attitude Towards Epilepsy among Undergraduate Students of a Private University in Kajang, Malaysia	158
PP2.20	Survey on the Knowledge Towards Cervical Cancer Among Students of a Private University in Kajang.	159
PP2.21	Reproductive Health On Disability Young Adults: A Qualitative Study on Visually Impaired Adolescents on Yayasan Pembinaan Tunanetra (YAPTI) Makassar.	160
PP2.22	A Case of Metastatic Breast Carcinoma Presenting with Thrombotic Thrombocytopenic Purpura.	161
PP2.23	Music as Complementary and Alternative Medicine: An Islamic Perspective.	162
PP2.24	Prophetic Herbal Medicine: Efficacy of <i>Nigella sativa</i> (Black Seed) for Malaria Treatment in <i>Plasmodium berghei</i> Rodent Model.	163
PP2.25	Retroviral Disease in an Adolescent: A Biopsychosocial and HEADSS Perspective.	164
PP2.26	Speech and Language Delay In Children.	165
PP2.27	Sleep Paralysis: Physiology, Cultural Beliefs and Islamic Perspectives.	166
PP2.28	A Systematic Review of the Outcome of Premarital β -Thalassaemia Screening in Muslim Majority Populated Countries.	167
PP2.29	Assessment of Community Pharmacists' Knowledge and Skills on the Proper Use of Metered-Dose Inhaler (MDI) in Selected Areas of Cebu City.	168
PP2.30	The Practice of Medicine Storage and Disposal among Tertiary Students in Jember, East Java, Indonesia.	169
PP2.31	The activity of Garlic (<i>Allium sativum</i>) Methanol Extract as an Inhibitor of Biofilm Formation on Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA).	170
PP2.32	Blastocystis Subtypes and Their Association with Clinical Diseases; A Systematic Literature Review.	171
PP2.33	The Sustainable of Community-Led Total Sanitation Program with Ecological Model Modification Approach.	172
PP2.34	Pesticide Used and Complaints on Health Problems Analysis in Agro-Industry Area.	173
PP2.35	Quality Control and Toxicity Evaluation of Rusa unicolour Antler.	174
PP2.36	Can 2D:4D Ratio Predict the Development of Knee Osteoarthritis in Women?	175
PP2.37	Predicting Thoracic Insufficiency Syndrome in Adolescent Idiopathic Scoliosis Using the Body Mass Index.	176
PP2.38	Analysis of Coffee Content in The Commercial Coffee Product Using Near-Infrared Via A Chemometrics Method.	177
PP2.39	Atypical Presentation of a Rare Cardiac Anomaly in an Infant of Diabetic Mother.	178
PP2.40	Review of HPV and Non-HPV Related Oropharyngeal Squamous Cell Carcinoma: Prevalence, Sociodemographic, Clinical Features and Outcomes.	179
PP2.41	Functional and Physico-Chemical Properties of Carbonated Beverage Using Butterfly Pea (<i>Clitoria ternatea</i> L.) Flowers Extract.	180
PP2.42	Atypical Presentation of Herpes Stromal Keratitis in a Contact Lens Wearer.	181
PP2.43	Right Trochlear Nerve Palsy As An Uncommon Symptom Of Arachnoid Cyst.	182
PP2.44	Does Robusta Coffee Affect Metal Ion Release From Dental Alloy?	183
PP2.45	Preliminary Study of 6-Shogaol Effect on Adult Zebrafish Behavior Using Novel Tank Diving-Induced Stress Test.	184
PP2.46	Antibacterial Activity of Ethanolic Extract of Kemaitan Leaf (<i>Lunasia amara</i> Blanco) against <i>Bacillus cereus</i> .	185
PP2.47	The Activity of Kepel Leaves Extract as an α -amylase, α glucosidase, and Lipase Inhibitor.	186
PP2.48	Antibiofilm Activity of Selected Plants of Genus Zingiber Against <i>Staphylococcus epidermidis</i> .	187
PP2.49	Nutritional Status and Blood Pressure in Students with Intellectual Disability.	188
PP2.50	Common Loss of Heterozygosity (LOH) Found in Malaysian Oral Cancer Patients : A Study Of Literature.	189
PP2.51	A Review of Ketogenic Diet as Complimentary Management of Epilepsy.	190
PP2.52	Gut Microbiota and The Risk Of Developing Type 2 Diabetes Mellitus: A Review.	191
PP2.53	Dermal Fillers: Types and Complications.	192

TABLE OF CONTENTS

Abstract No	Title	Page
PP2.54	Food borne disease and Food Safety among Students.	193
PP2.55	Analysis of Parental Response Skills for Preventing Child Sexual Abuse: What Should Parents Do?	194
PP2.56	Increased Neutrophil Cells, Lymphocyte Cells and IgM due to Giving Supplements of Cork Fish (<i>Channa striata</i>) in Patients with Pulmonary TB Disease.	195
PP2.57	Respiratory Symptoms and Risk of TSP Exposure at Public Transport Terminal.	196
PP2.59	Systematic Review on The Pharmacological Effects of <i>Annona squamosa</i> to Different Skin Conditions and Factors Contributing to its Economical Relevance.	197
PP2.60	Community Pharmacist Perception on the Contemporary Practice and Changes Prior to COVID-19 Pandemic.	198
PP2.61	Hexane Extract of <i>Melicope Triphylla</i> Leaves as A Promising Source of Antimalarial Drug Based on Inhibition of Pfmqo.	199
PP2.62	Effect of Allopurinol on Uric Acid Level and Kidney Function in Pediatrics with Tumor Lysis Syndrome (TLS) and High Risk TLS.	200
PP2.63	The N-(p-toluylcarbamoyl) benzamide as A Novel Cytotoxic Agent.	201
PP2.64	Cholinesterase Inhibitor and Antioxidant Activities of <i>Pternandra galeata</i> .	202
PP2.65	Influence of Binder Addition Method on the Dissolution of Tablet Containing Dried Hesperetin Nanosuspension.	203
PP2.66	The Curse of the King : A Case Report.	204
PP2.67	Evaluation of Real Time Polymerase Chain Reaction (Rt-Qpcr) for Detection of Respiratory Viruses.	205
PP2.68	Estimation of Ancestry Using Mandibular Morphology by CT scan: A Geometric Morphometric Study.	206
PP2.69	The Battle Against COVID-19: Executing Legal Measures.	207



PP 2.57

Respiratory Symptoms and Risk of TSP Exposure at Public Transport Terminal

Reny Indrayani^{1*}, Dwi Martiana Wati²¹ Occupational Health and Safety Studies, Faculty of Public Health, Jember University, Jember, Indonesia² Biostatistics and Populations Studies, Faculty of Public Health, Jember University, Jember, Indonesia

*Corresponding author's email: renyindrayani.fkm@unej.ac.id

ABSTRACT

Introduction: Along with the progress of civilization, transportation plays an important role in advancing life. However, the growth of transportation has also brought an unfortunate impact on the community. One main part of the land transportation system is a public transport terminal which is common with total suspended particulate (TSP) as a risk agent for respiratory function. It may lead to an uncomfortable working environment, vision problems, poisoning, lung dysfunction and even cancer. **Objective:** This study aimed to describe the possibility of risk cancer due to TSP exposure among public transport terminal workers in Jember using ARKL assessment (which is based on EPA) which is consisted of cancer and non-cancer risk. **Methodology:** The study participants were 44 workers on terminal X. For assessing the respiratory symptom it used ARKL assessment based on EPA which is consisted of cancer and non-cancer risk. **Results:** According to the assessment, most workers experienced respiratory symptoms and could be able to have cancer risk (shown by ECR >1). However, they were safe from non-cancer risk. **Conclusion:** To conclude, TSP exposure seems to pose a potential risk of cancer. Therefore, it will be remarkably important to minimise the frequency of TSP exposure by evaluating working hours while ensuring the workers use a proper mask.

Keywords: Respiratory symptoms, total suspended particulate (TSP) exposure, Public Transport Terminal workers

PP 2.31

The activity of Garlic (*Allium Sativum*) Methanol Extract as an Inhibitor of Biofilm Formation on Methicillin-Resistant *Staphylococcus aureus* (MRSA)

Enny Suswati^{1*}, Maulina Irianto², Cich Komariah³

- ¹ Department of Microbiology, Faculty of Medicine, University of Jember, Jember, Indonesia
- ² Hospital Kaliwates, Jember, Jember, Indonesia
- ³ Department of Pharmacology, Faculty of Medicine, University of Jember, Jember, Indonesia

*Corresponding author's email: ennyuswati.fk@unej.ac.id

ABSTRACT

Introduction: *Staphylococcus aureus* is a bacteria that easily resistant to antibiotics. One of the causes is that the bacteria can form a biofilm structure. Biofilm plays an important role in bacteria protection to environmental changes. Biofilm formation can be inhibited by some compounds, one of them is sulphur. Sulphur can resist biofilm formation by preventing bacteria adhesion to the surface and also preventing quorum sensing process. Organosulphur compound is contained in *Allium* species, mainly garlic (*Allium sativum*). **Objective(s):** This study aims to determine the activity and MBIC of garlic methanol extract in inhibiting biofilm formation on MRSA. **Methodology:** The sample of this research was MRSA that divided into seven groups on microplate, which were: negative control, positive control, and 5 treatment groups that given garlic's methanolic extract with 0.6 mg/ml, 0.8 mg/ml, 1 mg/ml, 1.2 mg/ml, 1.4 mg/ml concentration. After incubated for 24 hours, the microplates were dyed, and read on a microplate reader with 630 nm wavelength. Data in optical density and inhibition percentage were analyzed. **Results:** The result indicates that garlic's methanolic extract has an inhibiting MRSA biofilm formation activity with MBIC at 0,460 mg/ml. **Conclusion(s):** This finding strongly supports the garlic's methanolic extract has an inhibiting MRSA biofilm formation activity with MBIC at 0,460 mg/ml.

Keywords: garlic's methanolic extract, MRSA, inhibition, biofilm

Sign In



Search 'Measure'

- Export PDF
- Edit PDF
- Create PDF
- Comment
- Combine Files
- Organize Pages
- Compress PDF
- Redact
- Protect
- Fill & Sign

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial





UNIVERSITI SAINS ISLAM MALAYSIA
جامعة العلوم الإسلامية الماليزية
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA



CERTIFICATE OF ATTENDANCE

This is to certify that

ENNY SUSWATI

has attended the

4th USIM INTERNATIONAL HEALTH E-CONFERENCE

in conjunction with the

**3rd INTERNATIONAL CONFERENCE ON MEDICINE AND
HEALTH SCIENCES (ICMHS)**

Healthcare in Pandemic Era: "The New Norm"

as a

POSTER PRESENTER

held on

16th - 17th December 2020

DR. NOR EYZAWIAH HASSAN
DIRECTOR
4th USIM INTERNATIONAL HEALTH E-
CONFERENCE

PROF. DR. MUHAMMAD SHAMSIR MOHD ARIS
DEAN
FACULTY OF MEDICINE AND HEALTH SCIENC-
ES, USIM



Abstract

Introduction: *Staphylococcus aureus* is a bacteria that easily resistant to antibiotics. One of the causes is that the bacteria can form a biofilm structure. Biofilm plays an important role in bacteria protection to environmental changes. Biofilm formation can be inhibited by some compounds, one of them is sulphur. Sulphur can resist biofilm formation by preventing bacteria adhesion to the surface and also preventing quorum sensing process. Organosulphur compound is contained in *Allium* species, mainly garlics (*Allium sativum*).

Objective(s)

This study aims to determine the activity and MBIC of garlic methanol extract in inhibiting biofilm formation on MRSA

Methodology: The sample of this research was MRSA that divided into seven groups on microplate, which were: negative control, positive control, and 5 treatment groups that given garlic's methanolic extract with 0,6 mg/ml, 0,8 mg/ml, 1 mg/ml, 1,2 mg/ml, 1,4 mg/ml concentration. After incubated for 24 hours, the microplates were dyed, and read on microplate reader with 630 nm wavelength. Data in optical density and inhibition percentage were analyzed

Results: The result indicates that garlic's methanolic extract has an inhibiting MRSA biofilm formation activity with MBIC at 0,460 mg/ml.

Conclusion(s): This finding strongly supports the garlic's methanolic extract has an inhibiting MRSA biofilm formation activity with MBIC at 0,460 mg/ml.

Keywords: garlic's methanolic extract, MRSA, inhibition, biofilm

Introduction

MRSA in Indonesia mentioned that in 2001 only one (0,3%) MRSA was identified from 329 *S.aureus* that were isolated from 3995 patients. In 2011 in three educational hospitals, four percent of MRSA carriers were identified from cultures of nasal cavity, esophagus, and skin lesion cultures of 1502 patients. While in 2016, in Dr. Soetomo Hospital, Surabaya, the average of MRSA carriers were 8,1% of 643 patients.. One of the reasons why *S.aureus* become susceptible to resistance is because it can form a biofilm structure. Biofilm is defined as bacterial multicellular aggregate which attached to a biotic or abiotic surfaces and it could produce *Extracellular Polymeric Substance* (EPS). The formation of biofilm in general involving two processes which are *cell surface attachment* and *cell-cell interaction*. Bacteria has an ability to interact between the cell that called *quorum sensing*. The formation of biofilm can be inhibited by compounds such as phenol, indole, triazole, sulfur, furanon, bromopyrrole, dan peptide. Sulfur can inhibit the formation of biofilm by preventing bacterial *attachment* dan *quorum sensin*]. One of the plants that contains a lot of sulfur is garlic. Allicin, one of sulfur compounds in garlic, is known to has an antibacterial effect against *S.aureus*.

The purpose of this research is to find out the activity of garlic's methanol extract as an inhibitor of MRSA biofilm formation.

Methods

This is a *quasi experimental research design with a post test only control group design.*, in Biology Laboratory of the Mathematics and Natural Sciences Faculty, Microbiology Laboratory, and Biomolecular Laboratory of Medicine Faculty, Jember University.

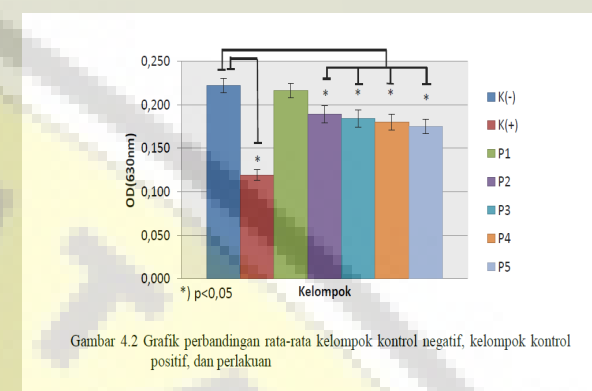
The research used the *Microtiter Plate Biofilm Assay* method. The sample is MRSA ATCC® BAA-1026™*, divided into seven groups on *microplate* which consist of negative control, positive control, and 5 treatments group (P1-P5). The negative control group contains 100 μ L/well of MRSA and 100 μ L/well of *aquades*. While the positive control contains 100 μ L/well of MRSA and 80 mg/ml *N-Acetylcystein* (NAC) as much as 100 μ L/well. Treatment groups, P1-P5, contains 100 μ L/well MRSA and garlic's methanol extract. With a concentration 0.6 mg / mL, 0.8 mg / mL, 1 mg / mL, 1.2 mg / mL, and 1.4 mg / mL for each, as much as 100 μ L / well. The *Microplate* is incubated in incubator on a 37°C temperature for 24 hours. And then *microplate* is washed three times by using 100 μ L/well of sterile PBS, fixed it with 100 μ L/well of methanol for five minutes, color it using 100 μ L/well of 1% crystal violet, wait for twenty minutes. For the rest of the coloration is washed off using 100 μ L/well of sterile *aquadest*. After that, add 100 μ L/well of 33% glacial acetic acid. Last, do the *microplate* reading using a *microplate reader* at 630nm wavelength.

This research has received an approval from the ethics commission of Medicine Faculty, Jember University. The results are presented in the form of mean \pm standard deviation (SD) *optical density* (OD) of biofilm. For the data analysis is using One Way Anova analysis and logarithmic regression.

Data in the form of biofilm inhibition percentage obtained from the formula:

$$\%inhibition = \frac{(OD_{negative\ control} - OD_{sample})}{OD_{negative\ control}} \times 100\%$$

OD_{negative control}



Gambar 4.2 Grafik perbandingan rata-rata kelompok kontrol negatif, kelompok kontrol positif, dan perlakuan

Fig 1. OD from spectofotometry

The logarithmic regression test was examined. Then, from the regression equation's result, enter the minimum inhibition percentage, so that *Minimum Biofilm Inhibitory Concentrations* (MBIC) from the garlic's methanol extract as the inhibitor of biofilm formation, on a concentration of 0,460 mg/mL.

Results and Discussion

The results are shown using *optical density* (OD) form. Recording to the normality test of biofilm OD, the results got $p > 0,05$ for all groups and the test of homogeneity got $p = 0,948$. For the *One Way Anova* test, the value was $p = 0,000$, so there was a significant difference in at least two treatment groups The LSD test showed if there was a $< 0,05$ significant difference between the negative and positive control groups, also there was a significant difference between the negative control and the P2, P3, P4, P5 treatment groups (Picture 1).

The results, which in biofilm OD form, got a significant outcome between the positive control and negative control groups. This shows that by giving aquades can not inhibit the formation of MRSA biofilm. Meanwhile by giving 80 mg/ml of NAC, the formation of MRSA biofilm can be inhibited because NAC can reduce the formation of bacterial EPS so the maturation process is delayed. It shown by the reduced of the biofilm's thickness on an examination using a *Confocal Lase Scanning Microscope* (CLSM).

The biofilm OD results in negative control groups is significant to the P2, P3, P4, and P5 groups. It means that garlic's methanol extract has an activity as an inhibitor of biofilm formation on MRSA. This is because the garlic's methanol extract has sulfur content which prevents bacterial the attachment and *quorum sensing* process [10]. The previous research showed that garlic's methanol extract has an antibacterial effect which presented with the formation of inhibition zone on agar media.

Quantitatively with the RT-PCR analysis, *allicin* in garlic can suppress the expression of *icaA* in *Staphylococcus*. But the exact mechanism by which garlic suppresses biofilm-related genes in *Staphylococcus* is unclear yet. Moreover, organosulfur compounds can act as *quorum sensing* inhibitors by preventing the enzymatic activity of the LuxS cleavage precursor. And also a competitive inhibitor of AI-2 binding receptors in *methyl cycle*. *Quorum sensing* which involves LuxS and AI-2 has an influence on the regulation of bacterial biofilm formation. So when AI-2 and LuxS are inhibited by the *quorum sensing* then the formation of biofilm will be disrupted.

Conclusion and Suggestion

Based on the research results, it can be concluded that the garlic's methanol extract (*Allium sativum*) can inhibit the formation of biofilm on MRSA. With the MBIC is 0,460 mg/mL. Further research is needed regarding to the garlic's methanol extract in inhibiting the formation of biofilm and it is also necessary to examine biofilms with other qualitative methods, for example with *Congo Red Agar* (CRA) or CLSM.