

ABSTRACT BOOK

1st International Conference on Clinical Laboratory and Environmental Health (ICOCLEH) 2020

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1st Joint Conference on Health Science and Medical Engineering 2020
8-9 October 2020, Poltekkes Kemenkes Surabaya, Indonesia
WEBSITE: ICOCLEH.POLTEKKESDEPKES-SBY.AC.ID

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Map of Health Polytechnic of the Ministry of Health, Surabaya





Welcome to Surabaya





Welcome To Health Polytechnic of the Ministry of Health, Surabaya

Drg Bambang Hadi Sugito, M.Kes
Director

Health Polytechnic of the Ministry of Health, Surabaya

Assalamu'alaikumWr. Wb.

Praise Allah SWT for bestowing His mercy and blessings, and with His permission we held the Joint Conference on Health Science & Medical Engineering (JCoHeSME) in 2020 which is part of a series to commemorate the 19th DIES NATALIS, Ministry of Health Surabaya Polytechnic.

Digital transformation is a big challenge for the Indonesian people in developing technology that will be used for Indonesian society. Digital transformation includes digital economy, artificial intelligence, big data. In its development, everyone definitely needs a variety of technologies that have been presented, it is also part of the experts and does not close exceptions to health workers in carrying out their duties, not only in need, health workers also play an important role in the country in the era of digital transformation and disruption to the health industry. The challenges faced by medical staff as the technology spreads to the wider community when the community is one of the elements affected in the changing digital transformation.

From some of the explanations regarding the digital transformation, the PoltekkesKemenkes Surabaya will hold a *Joint Conference on Health Science & Medical Engineering (JCoHeSME)* with the theme "*Community Empowerment on Health Care Industry in Digital Transformation and Disruption Era*" on 8 – 9 October 2020 , Implementation of Activities in a *virtual conference*.

The conference consists of four conferences in accordance with scientific families, including: Electromedical Engineering, Nursing, Dental Nursing, Health and Midwifery Analysts. The name of the International Conference (IC) under the umbrella of JCoHeSME is:

1. *1st International Conference on Electronics, Biomedical Engineering, and Health Informatics (ICEBEHI)* Electromedical Engineering, Electronics, Biomedical, Informatics scientific groups.
2. *1st International Conference on Clinical Laboratory & Environmental Health (ICoCLEH)* for the Health Analyst and Environmental Health scientific groups.
3. *1st International Conference on Nursing, Midwifery, and Nutrition (ICoNMiN)* for Nursing Sciences, Dental Nursing, Midwifery scientific groups
The Purpose of the conference are:
 1. To improve the reputation of lecturers and institutions at the International level as a place for student and lecturer publications in proceedings indexed by Scopus
 2. To increase the number of documents on Scopus.com for Poltekkes Surabaya lecturers
 3. Increasing the number of Poltekkes scores of the Ministry of Health Surabaya, in Sinta.Dikti
 4. Introducing the Health Polytechnic of the Surabaya Ministry of Health as a research and technology-based educational institution.

The forms of activities are:

1. *International Conference* which will be attended by four keynote speakers from 4 countries namely Indonesia, the Philippines, Thailand and Malaysia
2. *International standard call for papers* with International proceeding outputs, Scopus indexed journal and DIKTI Accredited journal.

Finally, I would like to congratulate and say thank you on your participating in the Joint Conference on Health Science & Medical Engineering (JCoHeSME).

May God the Almighty and facilitate our work. That is the delivery of my welcome. Thank you.

WassalamualaikumWr. Wb



Welcome Message from the JCoHeSME General Chair

On behalf of the technical program committee (TPC), we warmly welcome you to 2020 1st Joint Conference on Health Science and Medical Engineering (JCoHeSME) in Surabaya, Indonesia. The committee has organized exciting technical programs for International conference on Electronics, Biomedical Engineering, and Health Informatics 2020 (ICEBEHI), International conference on Nursing, Midwifery, and Nutrition 2020 (ICoNMIN), and International conference on Clinical Laboratory and Environmental Health 2020 (ICoCLEH) with conference theme of “Community empowerment on health care industry in digital transformation and disruption era” JCoHeSME 2020 is the annual international conference organized by Health Polytechnic Ministry of Health Surabaya (Poltekkes Kemenkes Surabaya), Surabaya, Indonesia and co-organized by Universiti TATI Malaysia, Institut Teknologi TELKOM Purwokerto Indonesia, Vocational Faculty Universitas Muhammadiyah Yogyakarta, Poltekkes Kemenkes Palu, and Poltekkes Kemenkes Kupang. As an annual international conference, JCoHeSME provides an excellent platform to share innovative ideas and experiences, exchange information, and explore collaboration among researchers, engineers, practitioners and scholars in the field of health science, and medical engineering.

All submitted papers throughout the world went through a rigorous review process and each paper was evaluated by at least two independent reviewers in accordance with standard blind review process. In this occasion, I would like to inform you that ICEBEHI's authors come from Albania, Canada, China, Columbia, Indonesia, Libya, Malaysia, Russia. Additionally, the ICoNMIN's author comes from Indonesia, Iran, Sri-Lanka, and Malaysia. Furthermore, the ICoCLEH's author comes from Indonesia and Thailand. Besides those regular sessions, JCoHeSME 2020 also features world-class keynote/plenary speeches and distinguished invited speakers that reflect the current research and development trends in the aforementioned fields.

We are deeply indebted to all four TPC members as well as our reviewers, who volunteered a considerable amount of their time and expertise to ensure a fair, rigorous, and timely review process. Many thanks should be given to our keynote and invited speakers who will share their experience in this conference. Last but not least, our sincere gratitude should be given to all authors for submitting their work to JCoHeSME 2020, which has allowed us to assemble a high-quality technical program. Welcome to JCoHeSME 2020 and hope you will enjoy this virtual conference.

With best regards,
Dr. Triwiyanto
General Chair



Assalamu'alaikumWr. Wb.

Praise be to Allah.The Most Merciful Allah SWT for the grace of life and knowledge for us to gather in this meaningful opportunity.

As a start I would like to welcome and thank the Director of PoltekkesKemenkes Surabaya, Drg. BambanghadiSugito, M.Kes, Keynote speaker ICoCLEH, Ass. Prof. Dr. ChotirosPlabplueng, Ph.DMahidol University Thailand, Assoc. Prof. Ir. Eddy Setiadi, Dipl.SE. MSc. Ph.D ITS Surabaya, and all participants of the International Conference on

Clinical Laboratory & Environmental Health (ICoCLEH) as part of the Joint Conferences on Health Science and Medical Engineering 2020 (JCoHeSME) on 8-9 October 2020 in Surabaya, East Java, Indonesia

The theme of this conference is Community Empowerment on Health Care Industry in Digital Transformation and Disruption Era which is a reflection of the commitment of the Surabaya Ministry of Health Polytechnic to always improve the quality of education and accommodate more opportunities to improve Community Empowerment on Health Care Industry.

The topic of Laboratory Diagnosis and environmental health is becoming a challenging topic, especially with the current pandemic situation, we have received many articles on medical laboratory technology and environmental health. Although the sessions will mainly discuss medical science, our seminar approach is interdisciplinary and covers not only clinical medicine but also the field of Environmental Health. It is our sincere wish that this seminar will provide an ideal atmosphere to meet new friends with similar interests in this field or in various other fields related to medical research.

We hope that our conference will be of great use and benefit in terms of contribution to research and publication in the field of Clinical Laboratory and Environmental Health. Thank you.

Best regards,

Dr. AnikHandayati, M.Kes
Chair ICoCLEH

Organisation Committee

drg. Bambang Hadi Sugito, M.Kes
Dr. Khambali, ST, MPPM
Dr. Hilmy Yumni, Skep. Ns.,MKep. Sp.Mat
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Pratiwi Hermiyanti



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 Suhariyadi, S.Pd., M. Kes. Ferry Kriswandana, S.ST, MT.

Marlik, M.Si.
 Narwati, M. Kes



JCoHeSME Plenary Session Rules and Regulations
PoltekkesKemenkes Surabaya

Link : <https://s.id/JCoHeSME>

-
1. Participants are required to register on the Zoom application which has been sent by mail or other electronic media
 2. Participants do a rename with the following conditions:
 - a. Invited guests → Name
 - b. Keynote Speaker → Name
 - c. Invited Speaker → Name
 - d. Presenter → Room-ID Paper (Contoh : ICEBEHI 1– 67)
 - e. Participant → Room-Name (Contoh : ICEBEHI 2-Triwiyanto)
 - f. Committe → Room-Com-Name (Contoh : ICEBEHI 3-Com-Triwiyanto)
 - g. Moderator → Room-Mod-Name (Contoh: ICEBEHI 4-Mod-Triwiyanto)
 - h. QA Assistance → Room-QA-Name (Contoh: ICEBEHI 4-QA-Triwiyanto)
 3. Participants' questions can simply be sent via the Chat window which is formally allowed on the Zoom device.
 4. Comments and questions are made by fulfilling the 3 (three) elements as follows:
 - a. Write a name
 - b. Affiliation
 - c. Questions addressed to the narrator / who, questions
 5. Participants who are entitled to receive certificates provided that they register at the beginning of the end every day, participate in the event for 2 full days.
 6. Material and E-certificates can be downloaded via a link which will be notified by the committee via email of each participant
 7. The committee does not accept complaints, if there are errors or errors in writing the name on the Ecertificate. The certificate is made according to the attendance list databased form.
 8. Please include an active email address: gmail.com (please write the correct email address) 9.
Participants must wear a polite and appropriate top, and attend the seminar in a polite position.
 10. Host has the right to mute the participant's audio (mute audio) and remove the participant if the participant does not follow the rules and is deemed to be disturbing other participants.
 11. Matters that have not been regulated or technical changes will be conveyed during the seminar

JCoHeSME Committee



DAY 1 Progame

Day 1 October 8th, 2020		
07.00-08.00 WIB	Online Registration	
08.00-08.45 WIB	<ol style="list-style-type: none"> 1. Opening Ceremony 2. National Anthem Indonesia Raya 3. JCoHeSME chairman's speech 4. Director of Poltekkes Surabaya's speech 5. Head of BPPSDM Kemenkes RI's speech 6. Pray 	Dr. Triwiyanto, S.Si., MT drg. Bambang Hadi Sugito, M.Kes Prof. dr. Abdul Kadir, Ph.D., Sp.THT -KL(K)., MARS
08.45-10.15 WIB	Keynote Speaker I (ICEBEHI) Panel	<ol style="list-style-type: none"> 1. Prof.Dr. Eko Supriyanto Universitas Teknologi Malaysia 2. Assoc. Prof. Hanung Adi Nugroho Ph.D Universitas Gadjah Mada, Indonesia
10.15-11.45 WIB	Keynote Speaker II (ICoCLEH) Panel	<ol style="list-style-type: none"> 1. Ass. Prof.Dr. Chotiros Plabplueng, Ph.D Mohidol University Thailand 2. Prof. Ir. Eddy Setiadi, Dipl.SE, M.Sc. Ph.D Intitut Teknologi Sepuluh Novembar, Indonesia
11.45 - 12.00 WIB	Sponsorship	BNI Syariah

12.00-12.30 WIB	Lunch Break	
12.30 – 13.00 WIB	Breakout Room	
13.00–17.00 WIB	Parallel Session I (9 Room) @ 15 Minutes (Presentation + QA)	Room ICONMIN 1 Room ICONMIN 2 Room ICONMIN 3 Room ICEBEHI 1 Room ICEBEHI 2 Room ICEBEHI 3 Room ICEBEHI 4 Room ICOCLEH 1 Room ICOCLEH 2

Parallel Session ICoCLEH DAY

1

NO	MODERATOR/QA	TIME	ICOCLEH DAY 1 ROOM 1	AUTHOR	TITLE	AFFILIATION
1	Moderator : Ayu; Anik H QA: 1. Zefanya Meylan Avenia, 2. Winona Syifa Qonita,	13.00 - 13.16	22	Dwi Krihariyani, Edy Haryanto and Evy Diah Woelansari	Prediction Pharmacokinetic, Toxicity, And Immunomodulator Activity Brazilein Of Sappan Wood On Spike Protein Antigen Sars-Cov-2 With Ace2 Receptors Using In Silico Test	Poltekkes Kemenkes Surabaya
2		13.16 - 13.32	26	Zulfikran Moh Rizki Azis and Evy Diah Woelansari	Phagocytosis index of peritoneal macrophages of mice induced by Salmonella typhi with Spirulina platensis treatment	Poltekkes Kemenkes Surabaya
3		13.32 - 13.48	32	Luh Putu Rahayu Chandra, Indah Lestari and Christ Kartika	<i>Conservation and The Addition of Ajwa Dates to Antioxidant Activity of Infused Water Strawberry and Carrot</i>	Poltekkes Kemenkes Surabaya
4		13.48 - 14.04	34	Zulfiayu Sapiun, Paulus Pangalo, Dwi Endarti, Yos Banne, Prisca Safriani Wicita, Arlan K. Imran and Fihrina Mohamad	Cytotoxic Activity of Sesewanua (Clerodendrum fragrans Wild) Leaf Ethanol Extract on Breast Cancer Cell	Poltekkes Kemenkes Gorontalo Universitas Gadjah Mada
5		14.04 - 14.20	42	Marce Inggritha Takubessi and Stefany S.A Fernandez	Heme Polymerization Inhibion Assay (HPIA) of Ethyl acetate fraction of Faloak Bark (Sterculia Quadrifida, R.Br) as antiplasmodial	Poltekkes Kemenkes Kupang

6		14.20 - 14.36	58	Budi Siswanto, Venny Patricia and Ahmad Yani	The Effect Of Ethanol Extract Of Katuk Leaves (Sauropus Androgynus) On Red Blood Cell Count (Rbc), Hemoglobin (Hb), And Hematocrit (Ht) Of Rats Exposed To Motorcycle Emission	Poltekkes Kemenkes Banten
7		14.36 - 14.52	60	Silvia Rahmi Astuti, Suhariyadi Suhariyadi, Wisnu Istanto and Sri Sulami Endah Astuti	HIV / AIDS Detection with Viral Load Examination and CD4 Cell Count Checking	Poltekkes Kemenkes Surabaya
8	Moderator : Ernita; Susi QA: 1. Ike Nur Farida, 2. Keyko Damayanti	14.52 - 15.08	61	Indah Lestari, Wisnu Istanto, Christ Kartika Rahayu and Zumrotul Istichah	Consumption Of Anti Tuberculosis Drugs In The First Line For Tuberculosis Patients Who Have Hepatotoxicity	Poltekkes Kemenkes Surabaya
9		15.08 - 15.24	62	Retno Sasongkowati, Anita Dwi Anggraini, Suliati Suliati and Sahda Afani Ramadhana	Antagonists Of Actinomyces Isolates In Candida Albicans Fungus Insulated With Mangrove Forests	Poltekkes Kemenkes Surabaya
10		15.24 - 15.40	71	Ni Nyoman Yuliani, Jefrin Sambara and Yulius Baki Korassa	Formulation Of Antioxidant Gel Preparations On The Cherry (Muntingia Calabura L.) Extract From Kupang, West Nusa Tenggara Based On Aqupec 505 Hv	Poltekkes Kemenkes Kupang
11		15.40 - 15.56	74	Reni Yunus, Ahmad Zil Fauzi and Angriani Fusvita	Screening of phytochemicals and antimicrobial activity of ethanol extract Komba -komba leaf (Chromolaena odorata) against bacteria pathogens	Poltekkes Kemenkes Kendari Politeknik Bina Husada Kendari

12	15.56 - 16.12	75	Jeفرin Sambara, Ni Nyoman Yuliani and Stevani Fernandez	Extract Gel Formula Katuk Leaves (Sauropus Androgynous (L) Merr) East Southeast Of Origin Kupang Nusa Cmc-Na Combined With Agent And Gelling Carbopol 940 Using As A Dpph Antioxidant	Poltekkes Kemenkes Kupang
13	16.12 - 16.28	80	Pestariati, Meilinda Rachmawati	Solid Media (Lowenstein Jensen) And Liquid Media (Mycobacteria Growth Indicator Tube) Usage Against Mycobacterium Tuberculosis Culture In Sputum Suspect Tb	Poltekkes Kemenkes Surabaya
14	16.28 - 16.44	86	Ari Khusuma, Suhartiningsih Suhartiningsih, Gita Pratama and Silvy Werdhi Lestari	Characteristic of HLA-ABC and HLA-G Surface Antigen in Human Wharton's Jelly derived Mesenchymal Stem Cells from Preterm Delivery	Poltekkes Kemenkes Mataram Universitas Indonesia

NO	MODERATTOR/QA	TIME	ICOCLEH DAY 1 ROOM 2	AUTHOR	TITLE	AFFILIATION
1	Moderator: Suharyadi; Wisnu Iswanto. QA:1. Pradevi Milafitri Farista	13.00 - 13.16	8	Nur Haidah, Demes Nurmayanti, Marlik Marlik and Irwan Sulistio	Resistance Of Aedes Aegypti Mosquito In The Subdistrict Of Pare, Ngasem, Kandat, And Kunjang Districts Of Kediri, East Java Indonesia	Poltekkes Kemenkes Surabaya
2	2.Dania Maya Hapsari,	13.16 - 13.32	10	Karno, Hery Koesmantoro and Sunaryo	Global Warming Speed Control, Climate Change And The Effect Of Greenhouse Begins From Stall Cows	Poltekkes Kemenkes Surabaya

3		13.32 - 13.48	17	Suprijandani, Hadi Suryono and Narwati	Detergent Waste Treatment Through Modification Of Biofilter Reactor	Poltekkes Kemenkes Surabaya
4		13.48 - 14.04	18	Novra Herlian Rojabiansyah, Rusmiati, Pratiwi Hermiyanti, Winarko and Demes Nurmayanti	Hazards Potentials Of Physics, Chemistry, Biology, Ergonomy, And Psychology On Workers At Sugar Factory Production Area	Poltekkes Kemenkes Surabaya
5		14.04 - 14.20	45	Mitoriana Porusia, Anisa Fauziah Dwi Andari, Windi Wulandari and Duangruedee Chotklang	Risk Factors Of Leptospirosis Incident In Agricultural Area, Boyolali Indonesia	Universitas Muhammadiyah Surakarta, Sirindhorn College of Public Health Khon Kaen, Thailand
6		14.20 - 14.36	48	Zainul Ikhwan, R. Hamdani Harahap, Lita Sri Andayani and Miswar Budi Mulya	Formulation Of The Right Waste Management Strategy On Small Island (Study Penyengat Island-Tanjungpinang)	Poltekkes Kemenkes Tanjung Pinang
7		14.36 - 14.52	49	Zainul Ikhwan, R. Hamdani Harahap, Lita Sri Andayani and Miswar Budi Mulya	Waste Management Model, In Penyengat Island, Tanjungpinang City Of Riau Islands	Poltekkes Kemenkes Tanjung Pinang
8	Moderator : Irwan/ Qa: 1. Nyimas Ayu Adini, 2.Uvy	14.52 - 15.08	55	Pradevi Milafitri F Ananto and Iva Rustanti Eri	Implementation of Sustainable Development Goals (SDGs) for Fulfillment of Clean Water and Environmental Sanitation in Disaster Condition	Poltekkes Kemenkes Surabaya

9	Nayassaadah	15.08 - 15.24	59	Resgita Masya, Ernie Setiawatie, Noer Ulfah, Bambang Sugito and Badai Wahyudadi	Inhibition Of <i>Nigella sativa</i> Toothpaste With Detergent Compared With Non Detergent To The Plaque Growth in vivo	Airlangga University, Surabaya Poltekkes Kemenkes Surabaya Poltekkes Kemenkes Makasar
10		15.24 - 15.40	65	Frida Rinata and Tuhu Pinardi	Increasing Income For Cleanliness Officers At Environmental Office In Magetan District As Block Leader In Household Waste Treatment	Poltekkes Kemenkes Surabaya
11		15.40 - 15.56	70	Faizal Soeharto and Priska Tenda	Job Risk Assessment At Chemistry Laboratory The Pharmacy Study Program With Jsa Engineering	Poltekkes Kemenkes Kupang
12		15.56 - 16.12	76	Susanti Susanti, Angriani Fusvita, Reni Yunus and Muhammad Azdar Setiawan	A Comparative Study Of Sgot And Sgpt On Consumer Of Pongasi A Tolaki's Typical Alcoholic Beverage	Poltekkes Kemenkes Kendari Politeknik Bina Husada Kendari
13		16.12 - 16.28	88	Anik Handayati, Syamsul Arifin, Monica Pudji Astuti	Anticoagulant Activity of <i>Dayak</i> Onion Bulb (<i>Eleutherine bulbosa</i>) Extract on Human Blood Samples	Poltekkes Kemenkes Surabaya
14		16.28 - 16.44	90	Pestariati, Mufida	Sorgum Agar (<i>Sorghum bicolor</i> L. Moench) as Substitute Nutrient Agar Media for Cultivation <i>Escherichia coli</i>	Poltekkes Kemenkes Surabaya

DAY 2 PROGRAMME

Day 2 October 9th, 2020		
07.00-08.00 WIB	Online Registration	
08.00 - 09.30 WIB	Keynote Speaker III (ICoNMIN) Panel	<ol style="list-style-type: none"> 1. Prof. Dr. Sri Sumarmi Universitas Airlangga Indonesia 2. Prof. Joylyn L Mejilla, MN., RN Centro Escolar University Philipines
09.30 – 11.30 WIB	Invited Speaker Panel	<ol style="list-style-type: none"> 1. Professor Elvira L. Urgel, Ph.D., MAN Centro Escolar University Philipines 2. Prof. Dr. Ir. Bambang Guruh Irianto Poltekkes Kemenkes Surabaya Indonesia 3. Assoc Prof. Dr. Khambali ST., MPPM Poltekkes Kemenkes Surabaya Indonesia 4. Assoc. Prof. Dr. Joko Suwito. Poltekkes Kemenkes Surabaya Indonesia 5. Mr. Nirmalya Takur. University of Cincinnati (UC), USA
11.30 – 12.30 WIB	Lunch Break	
12.30 – 13.00 WIB	BreakOut Room	
13.00 – 15.00 WIB	Parallel Session 2 (7 Room) @ 15 Minutes (Presentasi + QA)	Room ICONMIN 1 Room ICONMIN 2 Room ICONMIN 3 Room ICEBEHI 1 Room ICEBEHI 2 Room ICEBEHI 3
15.00 – 15.15 WIB	Hall Room	
15.15 – 15.30 WIB	Sponsorship IDS Med	IDS Med

15.30 – 16.30 WIB	Closing Ceremony 1. JCoHeSME chairman's report 2. Best Paper Announcement 3. Best Presenter Announcement 4. Pray	
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Screening of phytochemicals and antimicrobial activity of ethanol extract Komba-komba leaf (*Chromolaena odorata*) against bacteria pathogens

1

1

2

Reni Yunus , Ahmad Zil Fauzi , Angriani Fusvita

¹Politeknik Kesehatan Kendari, Southeast Sulawesi, Indonesia

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Keywords : Phytochemical Screening, Komba komba leaf Extract

One of Southeast Sulawesi's local plants that has been empirically used by the community for the treat is the Komba-komba (plant *Chromolaena odorata*). Traditionally this komb-komb plant is used as medicine f healing, skin infections. Komba-komba or kirinyuh (leaves *Chromolaena odorata*) contain compounds that ha inhibiting the growth of microorganisms / antibacterial. The purpose of this study was to determine the a contained in the komba-komba plant (*Chromolaena odorata*) and to determine the antimicrobial activity of the e the kombakomba plant (*Chromolaena odorata*) against pathogenic bacteria. Research Methods: This typ *experimental laboratories*, using the *One-shot Case Study* design which is a research design with the treat *independent*. The research procedure starts from plant preparation, extract preparation, thin layer chromatoinhibitory test on test bacteria. Research: ResultsThe results of phytochemical test screening of komba-komba s komba leaf extract (*Chromolaena odorata*) contains Alkaloids, Flavonoids, Polyphenones and tannins, saponi The inhibitory test results showed that the concentration of 1.56 ppm; 3,125 ppm; 6,250 ppm; 12,500 ppm; 25,0 ppm; and 100,000 ppm showed a zone of inhibition against the bacteria *Neisseria gonnorrhoe*, *Klebsiella p Pseudomonas aeruginosa*. Conclusion: *Chromolaena odorata* plants contain antibacterial compounds that ha inhibit pathogenic bacteria.

RESISTANCE of *Aedes aegypti* MOSQUITO in the SUBDISTRICT of PARE, NGASEM, KANDAT, AND KUNJANG DISTRICTS of KEDIRI, EAST JAVA INDONESIA

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Keywords : resistance, *Aedes aegypti*, malathion

Kediri District is one of Districts in East Java Province, Indonesia, that is categorized as area with Extraordinary Occurrence for Dengue Fever. In 2015, it was occurred double increase for dengue fever cases rather than in 2014. Distribution of domicile for Dengue Hemorrhagic Fever sufferers in Kediri District in 2016 was mostly in Pare Subdistrict and the sufferers were 107 sufferers. Then, the next subdistrict was Ngasem Subdistrict, which was 90 sufferers, and Kunjang Subdistrict, which was 74 sufferers [1]. Vector control of Dengue Hemorrhagic Fever for stadium of adult mosquito uses active ingredient of Malathion. Resistance of vector against insecticide is a global phenomenon and an obstacle for the success of vector control chemically. Detection for resistance of vector can be conducted through detection conventionally by using WHO standard method of Susceptibility test through using impregnated paper. Furthermore, this research aimed at analyzing detection conventionally regarding the resistance of *Aedes aegypti* mosquito as Dengue Hemorrhagic Fever vector in Kediri District against Malathion. This research was true experimental research and the procedures of examination in this research used WHO standard of Susceptibility test through using impregnated paper with Malathion dose in 0,8%, 0,5 %, and 0% (control variable). Data analysis referred to resistance status from WHO standard and it analyzed the difference of experimental biota death by using statistic of ANOVA difference test. Research result showed that *Aedes aegypti* mosquito in Kediri District was resistant against malathion 0,8%, meanwhile, the use of malathion 5% was in category of tolerance in 60th minutes. Moreover, there was a significant influence between contact time and death of *Aedes aegypti* mosquito. Suggestion for Health Office in Kediri District was the use of malathion as insecticide needed concentration in more than 0,5%, meanwhile, for further researchers, they needed to examine the resistance of *Aedes aegypti* larva with concentration of temephos in more than 0.5%.

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CONTROL OF GLOBAL WARMING RATE, CLIMATE CHANGES, AND GREENHOUSE EFFECTS INITIATING FROM COW STABLE

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Keywords : *Climate Change, Greenhouse gas, Methane*

Increasing the temperature of the planet Earth in other terms Global Warming (Global Warming) impact on climate change. This is because temperature is one of the most important components of climate, in addition to radiation from the sun, air pressure, wind, humidity, clouds, rain and evaporation. Global warming which is the cause of climate change is caused by an imbalance in the composition of Greenhouse Gases (GHGs) in the Atmospheric layer. Greenhouse Gas is a collective term for gases that have a greenhouse effect including: Carbon dioxide (CO₂), Nitrogen Oxide (N₂O), Ozone (O₃), Chloro Fluoro Carbon (CFC) and Methane (CH₄) known as biogas. Methane is the second worst cause of global warming after carbon dioxide, but has the ability to convert heat 20 times more when compared to carbon dioxide (CO₂) Methana is formed by the an-aerobic fermentation of organic materials including the decomposition of waste, paddy fields and livestock. The main source of Methana is from agricultural land and livestock industry, especially livestock manure. Food and Agriculture (FAO) in a report released in November 2006 that the livestock industry contributes the largest (18%) greenhouse gas emissions (Karno, 2016). The more beef we consume, the more Methane gas produced. Through the implementation of Appropriate Technology (TTG) in making biogas raw material for fresh cow dung is able to control: Global warming, greenhouse gases and climate change starting from the cowshed by capturing Methane Gas contained in fresh cow dung in Poly Ethylene digesters. Other multi benefits of capturing Methana gas in fresh cow dung with Poly Ethilene digester are: 1). Availability of environmentally friendly and sustainable alternative energy sources based on biogas, 2) Organic Fertilizer available from Efluent digester and, 3). Cows are clean from dirt and finally turn waste into a blessing for the community into reality. Through the implementation of Appropriate Technology (TTG) in making biogas raw material for fresh cow dung is able to control: Global warming, greenhouse gases and climate change starting from the cowshed by capturing Methane Gas contained in fresh cow dung in Poly Ethylene digesters. Other multi benefits of capturing Methana gas in fresh cow dung with Poly Ethilene digester are: 1). Availability of environmentally friendly and sustainable alternative energy sources based on biogas, 2) Organic Fertilizer available from Efluent digester and, 3). Stall Cows are clean from dirt and finally turn waste into a blessing for the community into reality.

ID. 17

DETERGENT WASTE TREATMENT THROUGH THE MODIFICATION OF BIOFILTER REACTORS

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Keywords : Design of Bio Reactor, Coagulation, Flocculation, Sedimentation, and Detergent Wastewater.

The use of detergent in households is practiced by almost all people. The affordable price of detergent and the ability to clean clothes, household items, and other utensils, make detergent use more and more every day. These conditions make the quality of the environment, especially water bodies, more disturbed when the detergent waste disposal without prior processing. Danger by detergent not only has a negative effect on the death of aquatic biota, but can interfere with human health such as digestive system disorders, skin irritation, and even one of the causes of cancer. The aim of this research is to design a modified biofilter reactor using *bioball* media and activated carbon, preceded by pre-treatment in the form of coagulation, foculation, and sedimentation processes to reduce levels of detergent and other organic substances in domestic wastewater. This research is a pre-experimental design research with designs used are pre-test, treatment, and post-test. The research media used are *bioball* because *bioball* has more space on its surface for bacterial growth that will form bacterial phylum, while activated carbon serves to increase efficiency in reducing levels of organic matter and to reduce the concentration of surfactants dissolved in domestic waste directly discharged into water bodies. The ability of *bioball* with enough contact time combined with the ability of activated carbon will reduce the surfactant content in detergents. The process will be even more effective if given a treatment with a process of coagulation, flocculation, and sedimentation. The results showed a decrease in detergent content from 14.56 mg / L to 0.86 mg / L (94.1%). These results indicate that the Bio Filter reactor used in the study was effective in reducing detergent levels to meet the detergent waste standard requirements based on East Java Governor Regulation No. 72/2013.

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HAZARDS POTENTIALS OF PHYSICS, CHEMISTRY, BIOLOGY, ERGONOMY, AND PSYCHOLOGY ON WORKERS AT SUGAR FACTORY PRODUCTION AREA

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Keywords : Hazards, Occupational and Health Safety, Production Areas, Physics, Chemistry, Biology, Ergonomics, Psychology

A sugar factory has production and maintenance activities thus it can present various potential hazards. Dangers occur due to unsafe actions and unsafe conditions. Based on the survey, hazards that occur due to unsafe actions are workers not using Personal Protective Equipment (PPE), while hazards caused by unsafe conditions are noise levels that exceed the Threshold Value (NAV) and the grinding chain moves without safety. Historical work accident data at Kedawoeng Sugar Factory in Pasuruan in 2014 occurred 1 case of work accident, in 2015 there was 1 work accident case, in 2017 there were 5 work accident cases. The purpose of this study is to identify the hazards of physics, chemistry, biology, ergonomics, and psychology at Kedawoeng Sugar Factory Production Area Pasuruan. This study is included into a qualitative descriptive study that identify physical, chemical, biological, ergonomic, and psychological hazards in the workforce at Kedawoeng Sugar Factory Production Area Pasuruan using the hazard identification method. The results showed that there were dangers found in the production and maintenance activities at Kedawoeng Sugar Factory Production Area namely physical, chemical, ergonomic and psychological hazards. The hazards found in production activities are different from those found in maintenance activities because the tools, processes and materials used in each activity are different. Most hazards were found in maintenance activities namely physical hazards by 37%. Companies are advised to form a special department that handles the Occupational Safety and Health Management System and employees are advised to comply with policies and regulations applied in the company.



Prediction Pharmacokinetic, Toxicity, and Immunomodulator Activity Brazilein of Sappan Wood on Spike Protein Antigen SARS-CoV-2 with ACE2 Receptors Using In Silico Test

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Keywords : ADMET, Brazilein, NAG 601 [B], vitamin C

The coronavirus (COVID-19) outbreak caused by SARS-CoV-2 infection in Wuhan, China has become a serious threat to global public health. Until now there has been no therapy or vaccine for human coronaviruses (HCoVs). Quick treatment needed now is an increase in endurance. Brazilein is a major compound in sappan wood that is empirically used as an immunomodulator. This study aims to perform in silico the immunomodulatory activity of brazilein compounds contained in sappan wood against the spike protein antigen SARS-CoV-2 on the angiotensin converting enzyme 2 (ACE2) receptor, with a vitamin C as the comparative compound. The in silico test was conducted to predict immunomodulator activity by docking using the Molegro Virtual Docker computer program. The receptor used is the structure of the novel coronavirus spike receptor-binding domain complexed with its receptor ACE2, PDB code : 6LZG, with ligand NAG_601 [B]. Prediction of pharmacokinetic properties (ADME), toxicity from brazilein and vitamin C using the pkCSM online tool program. Next, the data obtained were analyzed by comparing the docking bond energy between brazilein, ligands, and vitamin C with the target receptor. The lower the ligand bond energy than the target receptor is, the more stable the bond is formed. Hence, this can be used to predict the biological activity of compounds. In silico test results showed that the bond energy of brazilein = 73,255 kcal / mol, ligand = -63.2332 kcal / mol, and vitamin C = -58,579 kcal / mol. Brazilein has potential as an immunomodulator greater than vitamin C and ligands. Based on the results of in silico test using the pkCSM online tool program, the brazilein compound also has good pharmacokinetic properties causing relatively low toxicity. **Keywords:** ADMET, brazilein, NAG_601 [B], vitamin C.

Phagocytosis index of peritoneal macrophages of mice induced by *Salmonella typhi* with *Spirulina platensis* treatment

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research is experimental with a post-test only control group design that was conducted at the Laboratory Proteomics Institute of Tropical Disease Airlangga University and Laboratory of Water, Food and Beverage Chemistry, Department of Health Analyst, Surabaya Health Polytechnic in October 2019 to June 2020. This study consisted of two groups of infused water with and without the addition of Ajwa dates, which were stored for 0 hours as a control, 2 hours by the first refill and 4 hours by the second refill at room temperature ($\pm 28^{\circ}\text{C}$) and refrigerator temperature ($\pm 10^{\circ}\text{C}$). Each sample was tested for antioxidant activity using the DPPH method expressed by IC50 and for the organoleptic test was performed hedonically by the panelist. The ANOVA analysis results showed that the storage and addition of Ajwa dates significantly affected the antioxidant activity of strawberries and carrots infused water ($p < 0.05$). The highest antioxidant activity was obtained from infused water with the addition of dates at room temperature storage for 2 hours with an IC50 value of 206.53 ppm which indicates moderate antioxidant activity.

Heme Polymerization Inhibition Assay (HPIA) of Ethyl acetate fraction of Faloak Bark (*Sterculia Quadrifida*, R.Br) as antiplasmodial

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Keywords : *Sterculia quadrifida*, Heme Polymerization, Antispasmodial

Inhibition of hemoglobin polymerization is one of the main targets of antiplasmodial activity. Previous research revealed that flavonoids had antimalarial activity in vitro and one of the plants that have high flavonoids is Faloak (*Sterculia quadrifida* R.Br). Flavonoid content in Faloak found highest in ethyl acetate fraction of bark extract. The study aimed to investigate the activity of Ethyl acetate fraction of Faloak Bark (EAFB) in inhibiting heme polymerization. Heme polymerization inhibition assay from Huyen and based on reduction of heme absorption in a β -hematin formation using Tween 20 as an initiator. The inhibitory activity of heme polymerization expressed as IC50 and was determined by probit analysis. Heme polymerization inhibition activity of EAFB and Cloroquin as control were $49,70 \pm 15,2$ mg/mL and $45,40 \pm 4,47$ mg/mL respectively. A T-test on IC50 showed no significant difference between EAFB and chloroquine. Conclusion: Faloak bark of ethyl acetate fraction has heme polymerization inhibitory activity.

RISK FACTORS OF LEPTOSPIROSIS INCIDENT IN AGRICULTURAL AREA, BOYOLALI INDONESIA

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Keywords : Leptospirosis, Agricultural Area, Risk Factors

The number of Leptospirosis incidence in agricultural area, Boyolali regency, Indonesia, during 2017. According to Boyolali District Health Office the number of Leptospirosis cases in 2017 was 34 cases with 1 death. Several risk factors are the cause of Leptospirosis, such as personal hygiene, environmental sanitation, wound presence, occupation. Objective: This study aimed to determine the risk factors associated with the Leptospirosis incidence in Boyolali regency. Method: This research used observational method with a case control design. Total number of case sample were 33 people and control sample were 99 people. Data collection were carried out with interviews using a questionnaire to respondents related to personal hygiene, environmental sanitation and wounds. The data were tested using logistic regression. Results: The results showed that the risk factors associated with the incidence of Leptospirosis were a wound presence ($p=0.000$; OR:17.014;95% CI:5.487-52.761) and work as an farmer ($p=0.004$; OR:5.186;95% CI:1.682-15.989). Unrelated variables were bad personal hygiene ($p=0.202$) and environmental sanitation ($p=0.114$). Most of the case respondents works as a farmer and worker. Conclusions: The dominant risk factor that causes Leptospirosis was wound presences and occupation as farmer, therefore people who work mostly touch the water like farmer are required to cover any wound on feet and keep personal and environment sanitation to prevent infection.

Formulation of The Right Waste Management Strategy on Penyengat Island Tanjungpinang-Indonesia

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Keywords : *waste, small island*

Waste is a big problem in the archipelago, the geographical condition which is surrounded by sea and waste flows carried by currents and waves and limited land area while waste production is increasing and diverse, making the sea a trashcan. This study aims to determine waste management and the obstacles as well as the formulation of appropriate waste management strategies on Penyengat Island. Methods: This was quantitative and qualitative methods. Data were analyzed using (chi square test and logistic regression). Results : Logical Regression Equation $\ln(p / (1-p)) = -1.707 + 1.022 \text{ knowledge} + 0.716 \text{ facilities} + 0.611 \text{ regulation}$. Waste management has not been carried out, because garbage from households is only transported, stacked at the end of the island and then burned. Lack of guidance to the community in managing household waste. Community participation is lacking, dispose of marine waste or burned. The right strategy for managing waste on this island is preventive handling, plastic recycling, organizing waste, and subsidizing the cost of transporting waste, mentoring, supervision. Preparation and enforcement of waste management regulations and composting community groups scale. Together increase understanding and care through education and awareness initiatives and improved planning.

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WASTE MANAGEMENT MODEL, IN PENYENGAT ISLAND, TANJUNGPINANG CITY OF RIAU ISLANDS

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Keywords : community-based, waste management, small island, SEM method

Penyengat Island is a historic island which is a favorite tourist attraction whose territory is in front of the City of Tanjungpinang. The location is surrounded by the sea and separated from other islands, so that it becomes a place with high potential for waste shipments or a waste producer. Changes in the wind season that bring waste from other islands to Penyengat island, limitations, land and land as the main components of waste management on the island, limited personnel capacity, access to sea transportation and high transportation costs, as well as a low level of concern, culture of disposing of waste to sea, so it becomes important to formulate the concept of waste management model. This research aims to synthesize and develop and then choose the best solid waste management concept that is suitable for application in the Penyengat Island of Tanjungpinang City by using the Structural Equation Modeling (SEM). The results show that the concept of waste management begins with individual scale household waste management for terrestrial and communal areas for selected coastal areas as an alternative to the most appropriate waste management concept and can be applied at the research location. Based on the results of the calculation of environmental aspects and social aspects are selected as the main criteria that must be considered. All shareholders share responsibility for resource recovery and environmental protection. Managing waste is ineffective because it prevents the freedom to implement and enforce city policies and regulations and overcome parallel to overcome bankruptcy.

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Implementation of Sustainable Development Goals (SDGs) for Fulfillment of Clean Water and Environmental Sanitation in Disaster Condition

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Keywords : Clean Water and Environmental Sanitation, Innovation, Sustainable Development Goals



showed the concentration of extract of 200 mg/kg weight has the highest increase in hematological parameters for RBC (8.42 ± 0.67); Hb (14.0 ± 0.48); and Ht (44.6 ± 0.89). The ethanol extract of katuk leaves has a significant effect ($p < 0.05$) in increasing RBC, Hb, and Ht. These results imply that the ethanol extract of katuk leaves has a significant role in increasing hematological parameters of blood, and further studies are needed in order to determine the active compounds of the extract as part of drug discovery in the treatment of a condition in which a lower level of hematological parameters due to air pollution exposure occurs.

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Inhibition Of *Nigella sativa* Toothpaste With Detergent Compared With Non Detergent To The Plaque Growth *in vivo*

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Keywords : Toothpaste, Black cumin, *Nigella sativa*, Sodium Lauryl Sulfate, (SLS), Supragingiva plaque

Plaque can inhibit the antibacterial activity of salivary function, which can damage the periodontal tissue. Several preventive measures can be done to control plaque, mechanically or chemically. Mechanical plaque control in combination with chemical plaque control such as toothpaste can reduce plaque. The role of Sodium Lauryl Sulfate (SLS) in toothpaste which can facilitate plaque detachment from the tooth surface. Herbal toothpaste has been developed using herbal ingredients that have antibacterial properties as black cumin (*Nigella sativa*). The contents of black cumin, thymoquinone, thymol, and tannins, have been proven to be effective in inhibiting the growth of plaque bacteria. Purpose: This study aims to identify the inhibitory ability of black cumin toothpaste extract containing detergent compared to black cumin extract toothpaste without detergent on the growth of supragingival plaque bacteria. Methods: This research method of diffusion of wells on Brain-heart Infusion Broth (BHIB) media was conducted in four research groups namely negative control, cumin paste with SLS, non SLS cumin paste, and SLS and carried out bacterial planting on Mueller Hinton Agar (MHA) media. Next measure the diameter of the inhibition zone

around the well. Results: There was a significant difference in each group against the inhibitory growth of supragingival plaque bacteria on the Oneway ANOVA test results ($p < 0.05$) Conclusion: Black cumin extract toothpaste containing 2% of detergent has better inhibition against supragingival plaque bacteria than non cumin detergent 3% black cumin toothpaste.

HIV / AIDS Detection with Viral Load Examination and CD4 Cell Count Checking

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Keywords : HIV/AIDS, Viral Load, CD4 Cell, Immunity, T-helper lymphocytes

The incidence of cases of HIV / AIDS is still increasing, including in South Kalimantan, especially Banjarmasin, which has an incidence of cases of HIV / AIDS in 2018 totaling 181 people. The HIV virus attacks white blood cells (T-helper lymphocytes "CD4 +) and results in decreased human immunity. The viral load examination is used to measure the amount of HIV virus in the blood. Examination of CD4 cell counts are used to assess the level of immunity of people with HIV / AIDS. The purpose of this study was to determine the relationship between the results of the viral load examination with the results of the examination of the number of CD4 cells in patients with HIV / AIDS. This research can provide scientific information as a reference to increase knowledge about HIV / AIDS and decrease the level of immunity of people with HIV / AIDS. This research also provides insight into how to find out initial

information about the body's immunity against new sufferers. Sampling was done by purposive sampling with inclusion criteria. Samples are new outpatients, aged 20-50 years and have received VCT (Voluntary counseling and testing). Sample is an HIV / AIDS positive HIV patient by conducting an HIV rapid test. Determination of the sample was also seen from the exclusion criteria of HIV / AIDS sufferers who had received ARV drug therapy. This research was an observational analytic study with a cross-sectional approach using quantitative analysis methods. Viral load examination uses the real time reverse transcriptase method - Polymerase Chain Reaction (RT-PCR). Examination of CD4 cell numbers using the flowcytometry method with the Alere PIMA tool. Data were analyzed by Rank Spearman correlation test. The results of the Viral load in patients with HIV / AIDS in the adult age group showed 9,000 copies / ml and at the end 960,000 copies / ml. The results of the viral load test in adult patients at the end are higher than at the beginning. Examination Results of the number of CD4 cells in patients with HIV / AIDS in the adult age group showed 586 cells / ul and at the end of 11 cells / ul. Examination Results of CD4 cell counts for adult sufferers show lower end than at baseline. Indications of the results of the examination showed the higher the amount of viral load, the number of cells CD4 will be lower than patients with HIV / AIDS. The implication of this research is a recommendation of viral load examination for detection new patient. The conclusion of this study is that there is a significant relationship between the results of the examination of viral load and the results of the examination of the number of CD4 cells in patients with HIV / AIDS. Keywords: HIV/AIDS, Viral Load, CD4 Cell, Immunity, T-helper lymphocytes.

CONSUMPTION OF ANTI TUBERCULOSIS DRUGS IN THE FIRST LINE FOR TUBERCULOSIS PATIENTS WHO HAVE HEPATOTOXICITY

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Keywords : Tuberculosis, First Line Anti Tuberculosis Drugs, Rifampicin, Isoniazid, Pyrazinamid, Ethambutol, Hepatotoxicity

The average number of patients with pulmonary poly at the Bojonegoro District Hospital for the period January - November 2019 is as many as 580. Every month 124 tuberculosis patients undergo first-line antituberculosis drug therapy. A total of 24 patients were recorded as having hepatotoxic effects due to the use of antituberculosis drugs. Research is a step-in obtaining liver function data that have increased side effects. The first-line anti-TB drugs consumed are isoniazid and pyrazinamide which cause hepatotoxicity with marked increase in SGOT and SGPT levels. This study aims to determine the extent to which the use of antituberculosis drugs can affect the results of the SGOT / SGPT examination on the first line for tuberculosis patients who experience hepatotoxicity. This study was a retrospective study using patient data recorded in the pulmonary clinic of the Bojonegoro District Hospital from November 2109 to June 2020. The sample of this study was serum from 24 patients whose data had been recorded and had complaints of hepatotoxicity The results of this study show that the data of 24 patients more pulmonary TB patients obtained 66.7% of patients are male and 58.3% of patients with pulmonary TB are aged between 31-50 years. This research obtained examination results that 4 patients with TB had hepatotoxicity with increased levels of SGOT, and 6 TB patients experienced hepatotoxicity with increased levels of SGPT. Increased levels of SGOT and SGPT can be influenced by the consumption of Rifampicin and Isoniazid drugs, which have side effects including nausea, and vomiting.

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ANTAGONISTS OF ACTINOMYCETES ISOLATES IN *Candida albicans* FUNGUS INSULATED WITH MANGROVE FORESTS

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Keywords : Actinomycetes, Wonorejo mangrove forest Surabaya, antagonistic activity, *Candida albicans*.



infections. Komba-komba or kirinyuh (leaves *Chromolaena odorata*) contain compounds that ha inhibiting the growth of microorganisms / antibacterial. The purpose of this study was to determine the a contained in the komba-komba plant (*Chromolaena odorata*) and to determine the antimicrobial activity of the e the kombakomba plant (*Chromolaena odorata*) against pathogenic bacteria. Research Methods: This typ *experimental laboratories*, using the *One-shot Case Study* design which is a research design with the treat *independent*. The research procedure starts from plant preparation, extract preparation, thin layer chromato inhibitory test on test bacteria. Research: ResultsThe results of phytochemical test screening of komba-komba s komba leaf extract (*Chromolaena odorata*) contains Alkaloids, Flavonoids, Polyphenones and tannins, saponi The inhibitory test results showed that the concentration of 1.56 ppm; 3,125 ppm; 6,250 ppm; 12,500 ppm; 25,0 ppm; and 100,000 ppm showed a zone of inhibition against the bacteria *Neisseria gonorrhoeae*, *Klebsiella p Pseudomonas aeruginosa*. Conclusion: *Chromolaena odorata* plants contain antibacterial compounds that ha inhibit pathogenic bacteria.

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Extract gel formula katuk leaves (*Sauropus androgynus* (L) Merr) EAST SOUTHEAST OF ORIGIN KUPANG NUSA CMC-NA COMBINED WITH AGENT AND gelling carbopol 940 USING AS A DPPH antioxidant

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Keywords : Katuk Leaf Extract, gel, gel stability test, gel antioxidant activity test

Katuk Leaf (*Sauropus androgynus* (L.) Merr.) From Kupang, East Nusa Tenggara is a type of plant that contains *chalcone* which is used as an antioxidant. This study aims to formulate gel preparations from Katuk Leaf extract using variations in the concentration of CMC-Na and carbopol 940 and to see the stability of the physical properties of the katur leaf extract gel *Sauropus androgynus* (L.) Merr. Katuk Leaf Extract obtained by percolation method using 70% ethanol solvent. Gel is made in formulas 1, 2, 3, 4, and 5 with CMC-Na concentration of carbopol 940 0%: 10%; 1%: 9%; 2%: 8%; 9%: 1%; 10%: 0%. Antioxidant activity was tested with DPPH, observed physical stability including organoleptic, homogeneity, viscosity, pH of spreadability, adhesion, and gel stability using the method *freeze thaw*. Data analysis using statistics *One Way ANNOVA* to see the stability of katuk leaf extract gel *Sauropus androgynus* (L.). Meruk The results showed the concentration of carbopol 940 increased viscosity and adhesion as well as decreased the spreadability and pH, while CMC-Na increased the spreadability and pH and decreased the viscosity and adhesiveness in the nature Physical properties of Katuk Leaf extract gel. IC50 value of Katuk Leaf extract 73.815 ppm, the test

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Keywords : Mesenchymal stem cell, preterm, wharton's jelly, HLA-ABC, HLA-G

Perinatal stem cells are now a potential alternative for stem cell availability, both in research and clinical fields. One expected is Wharton's Jelly (WJ) from preterm labor which is a source of mesenchymal stem cells. The characteristics and expression of HLA-ABC and HLA-G surface antigens in stem cells of Wharton's Jelly mesenchyme preterm labor are not well known. Both of these immunomodulatory molecules play a role in determining the nature of immune suppression in mesenchymal cells, which are needed in allogeneic transplants. This study aims to determine the expression of HLA-ABC surface antigens and HLA-G WJ mesenchyme stem cells from preterm labor and compared with various culture medium supplements. WJ was cultured in the DMEM 10% FBS medium. Confluent cells are harvested and grown back in a new container (passage) with the same medium. In passages 3 and 5 HLA-ABC and HLA-G surface antigen characteristics were tested using flowcytometry. HLAABC and HLA-G expression of Wharton's Jelly preterm samples showed a tendency to be more hypoimmunogenic than term samples. WJ mesenchymal stem cells from preterm labor can be used as an alternative source of mesenchyme stem cells for regenerative therapy application.

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Anticoagulant Activity of *Dayak* Onion Bulb (*Eleutherine bulbosa*) Extract on Human Blood Samples

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Keywords : *anticoagulants; Dayak onion bulbs (Eleutherine bulbosa); clotting time (Lee-White)*



Cardiovascular disease can occur due to disruption of the hemostatic system by forming blood clots in blood vessels, or commonly known as deep vein thrombosis. The curative action that has been carried out in the form of heparin anticoagulant administration had many side effects such as bleeding, hematuria, thrombocytopenia, and hypersensitivity; therefore, alternative anticoagulant ingredients such as onion bulbs have emerged. Dayak onion bulb (*Eleutherine bulbosa*) is known to contain eleutherinol compound, which has anticoagulant activity. This study aims to determine the potential anticoagulant activity of Dayak bulb onion extract (*Eleutherine bulbosa*) on human blood samples. This anticoagulant activity test was carried out by observing the length of time for blood clotting in the extract treatment group with several concentrations (0, 10, 12.5, 16, 25, and 50%) by Clotting Time (Lee-White) method. The results showed a significant delay in blood coagulation time in the group treated with Dayak bulb onion extract as increasing the concentration. About 50% Dayak onion onion bulb extract was showed a twofold increase in blood coagulation time than that of no extract administration. So that, Dayak bulb onion has the opportunity to be an alternative natural anticoagulant.

Sorghum Agar (*Sorghum bicolor* L. Moench) as Substitute Nutrient Agar Media for Cultivation *Escherichia coli*

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Keywords : *Sorghum bicolor* L. Moench, Nutrient Agar Media, *Escherichia coli*

Media (nutrient agar) is a medium that is often used for bacteriological examinations and the price is relatively more expensive, *Sorghum bicolor* L. Moench. materials that are easy to get, cheap. Sorghum contains carbohydrates and protein which are suitable for manufacturing agar nutrients This research is an experimental quantitative analysis laboratory. The research used *Sorghum bicolor* L. Moench flour as carbohydrates and proteins in Nutrient Agar media. This study used variations in the mass of sorghum flour 2.50 grams, 3.75 grams, 5.00 grams, and 6.25 grams. The average number of bacterial colonies at mass variations was 2.50 grams, 3.75 grams, 5.00 grams, and 6.25 grams, namely 70.75×10^{13} CFU / mL, 60.75×10^{13} CFU / mL, $49, 25 \times 10^{13}$ CFU / mL, and 42×10^{13} CFU / mL with significant differences in the value of $P = 0.000$ or $<\alpha = 0.05$. 5.00 gram sorghum flour yields almost the same colony count as Nutrie Media for manufacturing as the gold standard. Conclusion 5 grams of sorghum flour can be used as an alternative media for nutrition and protein in Nutrient agar for Manufacturing