



DEWAN JAMU  
INDONESIA



THE XVIII<sup>th</sup> MULAWARMAN PHARMACEUTICAL CONFERENCE  
FACULTY OF PHARMACY MULAWARMAN UNIVERSITY

SAMARINDA, 1-3 DESEMBER 2023



# ABSTRACT BOOK

RESILIENSI KEDAULATAN DAN KEJAYAAN  
NUSANTARA MENUJU INDONESIA EMAS 2045  
MELALUI JAMU DAN DESA JAMU BERBASIS  
FILOSOFI DJAMPI OESODO (DJAMOE)



**SCHEDULE OF  
18<sup>th</sup> MULAWARMAN PHARMACEUTICAL CONFERENCE  
(18<sup>th</sup> MPC) 2023**

Topik : Resiliensi Kedaulatan Dan Kejayaan Nusantara Menuju Indonesia Emas 2045  
Melalui Jamu Dan Desa Jamu Berbasis Filosofi Djampi Oesodo (Djamoe)

Waktu : Jumat-Minggu, 01-03 Desember 2023

Lokasi : Fakultas Farmasi UNMUL

Zoom meeting :

<https://us02web.zoom.us/j/89787225558?pwd=eUFtTTZvKzBkQy9mSWpWNGdJWEM5Zz09>

Meeting ID : 897 8722 5558

Passcode : MPC18

## KATA PENGANTAR

Seminar nasional *Mulawarman Pharmaceutical Conference* (MPC) merupakan kegiatan biannual rutin Fakultas Farmasi Universitas Mulawarman. Suasana akademik dengan pemikiran ilmiah-kritis menjadi poin utama upaya mendidik mahasiswa melalui kegiatan seminar ilmiah. Kegiatan ini juga menjadi sarana publikasi yang efektif untuk para peneliti non-mahasiswa menyampaikan hasil penelitiannya. MPC kali ini adalah kegiatan ke-18 dengan narasumber luar biasa, yaitu Sri Mulyani Indrawati, S.E., M.Sc., Ph.D\*, Dr. apt. Lucia Rizka Andalucia, M.Pharm, MARS., Drs. Vinsensius Jemadu, M.B.A., Dr. dr. Siti Fadilah Supari, Sp.JP (K), Mayjen TNI (Purn.) Dr. dr. Daniel Tjen, Sp.S., serta Prof. Dr. Ir. Moch. Sasmito Djati, M.S. Fokus pembahasan semnas adalah “Resiliensi Kedaulatan dan Kejayaan Nusantara Menuju Indonesia Emas 2045 Melalui Jamu dan Desa Jamu Berbasis Filosofi Djampi Oesodo (Djamoe)”. Potensi jamu sangat besar untuk dikembangkan menjadi produk unggulan Indonesia. Upaya pemerintah bersama Dewan Jamu Indonesia membangkitkan semangat semua stakeholder mampu mengangkat budaya jamu Nusantara untuk penguatan kesehatan masyarakat. Peserta MPC 18<sup>th</sup> terdiri dari peserta pemakalah dan peserta umum. Jumlah pemakalah mencapai 145 orang. Berbagai hasil penelitian kefarmasian dipublikasikan pada forum ini. Diharapkan kedepannya suasana pembelajaran ilmiah seperti ini tetap terlaksana dengan baik dan konsisten.

Dekan Fakultas Farmasi Universitas Mulawarman



Dr. apt. Hadi Kuncord, M.Farm

## **PANITIA PELAKSANA**

### **Dekan Fakultas Farmasi Universitas Mulawarman**

Wakil Dekan 1 Fakultas Farmasi Universitas Mulawarman

Wakil Dekan 2 Dekan Fakultas Farmasi Universitas Mulawarman

### **Ketua Panitia**

Dr. apt. Yurika Sastyarina, M.Farm

### **Divisi Ilmiah**

Dr. apt. Niken Indriyanti, M.Si

Dr. apt. Helmi, S.Farm

Dr. apt. Victoria Yulita Fitriani, M.Farm-Klin

Dr. Rolan Rusli, S.Pd., M.Si

Dr. apt. Riski Sulistiarini, M.Si

Apt. Adam M. Ramadhan, M.Sc

Maria Almeida, M.Si

Nida Khofiya, S.Farm

Selfia, S.Farm

### **Sekretariat**

Apt. Nurus Shobah, M.Clin-Pharm

Nurul Muhlisa M, M.Si

### **Tim Pendukung**

Mahasiswa Program Studi Pendidikan Profesi Apoteker

Himpunan Mahasiswa Fakultas Farmasi Unmul

## NARASUMBER

Plenary Session, 02 Desember 2023

Tempat: Lecture Theater Gedung Prof. Dr. H. Masjaya (Unmul Hub)

	<b>Nama</b>	<b>Judul Presentasi</b>
Narasumber 1	<b>Sri Mulyani Indrawati, S.E., M.Sc., Ph.D*</b> Menteri Keuangan	Strategi Pencapaian Kemandirian Ekonomi Melalui Jamu Berbasis Filosofi “Djampi Oesodo” Sebagai Warisan Budaya Nusantara
Narasumber 2	<b>Dr. apt. Lucia Rizka Andalucia, M.Pharm, MARS.</b> Dirjen Kefarmasian dan Alat Kesehatan, Kemenkes	Strategi Pencapaian Kesehatan Berbasis Warisan Budaya Nusantara Menggunakan Jamu Dengan Filosofi “Djampi Oesodo
Narasumber 3	<b>Drs. Vinsensius Jemadu, M.B.A.</b> Deputi Bidang Produk Wisata dan Penyelenggara Kegiatan, Kemenparekraf	Desa Wisata Edukasi Djamoe Berbasis Filosofi “Djampi Oesodo” untuk Kedaulatan dan Ekonomi Kreatif Berbasis Warisan Budaya Nusantara
Narasumber 4	<b>Dr. dr. Siti Fadilah Supari, Sp.JP (K)</b>	Jamu Berbasis Filosofi “Djampi Oesodo” Sebagai Pencapaian Kesehatan Holistik Dengan Penggunaan Dimensi Kesadaran, Energi, dan Materi
Narasumber 5	<b>Mayjen TNI (Purn.) Dr. dr. Daniel Tjen, Sp.S</b> Ketua Umum Dewan Jamu Indonesia (DJI)	Resiliensi Kedaulatan dan Kejayaan Nusantara Menuju Indonesia Emas 2045 Melalui Jamu dan Desa Jamu Berbasis Filosofi “Djampi Oesodo”
Narasumber 6	<b>Prof. Dr. Ir. Moch. Sasmito Djati, M.S.</b> Ketua Dewan Jamu Indonesia (DJI) Jawa Timur	Desa Wisata Edukasi “Djamoe Nusantara” Sebagai Anjungan Kesehatan Tradisional Holistik Untuk Penguatan Kesehatan, Budaya Nusantara, dan Kesehatan Masyarakat Indonesia

**SUSUNAN ACARA THE 18<sup>th</sup> MULAWARMAN PHARMACEUTICAL  
CONFERENCES FAKULTAS FARMASI UNIVERSITAS MULAWARMAN  
TAHUN 2023**

Hari/Tanggal : Jum'at, 01 Desember 2023

Tempat : Universitas Mulawarman

Waktu	Acara	Pelaksana
17.30 – 19.45	Registrasi	Panitia, Peserta, dan Undangan
19.45 – 19.50	Pembukaan Acara	Tim Pertunjukan Seni/MC
19.50 – 19.55	Pembacaan Doa	Jamil Anshory, S.K.M., M.Si
19.55 – 20.00	Menyanyikan Lagu Kebangsaan Indonesia Raya	Panitia, Peserta, dan Undangan
20.00 – 20.35	Pertunjukan Seni Oleh Mahasiswa	Tim Pertunjukan Seni Farmasi UNMUL: 1. Hymne UNMUL 2. Mars Farmasi 3. Lagu Daerah
20.35 – 20.45	Laporan Ketua Panitia	Dr. Yurika Sastyarina, M. Farm.
20.45 – 20.55	Sambutan Dekan Fakultas Farmasi Unmul	Dr. Hadi Kuncoro, M. Farm.
20.55 – 21.05	Sambutan Rektor Unmul	Prof. Dr. Ir. H. Abdunnur, M.Si.
21.05 – 21.15	Sambutan PJ Gubernur Kaltim sekaligus membuka acara MPC-XVIII	Dr. Drs. Akmal Malik, M.Si.
21.15 – 21.25	Penyerahan cendera mata	Panitia/Putra-putri Farmasi
21.25 – 21.35	Pertunjukan Tari	Tim Pertunjukan Seni Farmasi UNMUL
21.35 – 21.40	Penutupan Acara Seremonial	MC

Hari/Tanggal : Sabtu, 02 Desember 2023

Tempat : Universitas Mulawarman

Waktu	Acara	Pelaksana
08.00 – 09.00	Registrasi	Panitia
09.00– 09.15	<b>PLENO 1 (Pembukaan dan Pembacaan CV Pemateri)</b>	<b>Moderator</b>
09.15-10.00	“Strategi Pencapaian Kemandirian Ekonomi melalui Jamu berbasis Filosofi Djampi Oesodo sebagai Warisan Budaya Nusantara”	Sri Mulyani Indrawati, S.E., M.Sc., Ph.D. (Menteri Keuangan Republik Indonesia)
10.00-10.45	“Strategi Pencapaian Ketahanan Kesehatan dan Ekonomi berbasis Warisan Budaya Nusantara menggunakan “JAMU” dengan Filosofi Djampi Oesodo)”	Direktur Jenderal Kefarmasian dan Alat Kesehatan Dr. Dra. apt. Lucia Rizka Andalucia, M.Pharm., MARS
10.45-11.30	“Desa Wisata Edukasi Djamoe Nusantara’ berbasis Fsrilosophi Djampi Oesodo untuk Kedaulatan Kesehatan dan Ekonomi Kreatif berbasis Warisan Budaya Nusantara”	Deputi Bidang Produk Wisata dan Penyelenggara Kegiatan Kementerian Pariwisata dan Ekonomi Kreatif yaitu Bapak Drs. Vinsensius Jemadu
11.30 – 12.00	Diskusi	Moderator
12.00 – 13.30	Istirahat	
13.30 – 13.45	<b>PLENO 2 (Pembukaan dan Pembacaan CV Pemateri)</b>	<b>Moderator</b>
13.45 – 14.30	“Jamu berbasis Filosofi Djampi Oesodo sebagai Pencapaian Kesehatan Holistik dengan Penggunaan Dimensi Kesadaran, Energi, dan Materi”	Dr. dr. Siti Fadilah Supari, Sp JP (K).
14.30 – 15.15	Resiliensi Kedaulatan dan Kejayaan Nusantara Menuju Indonesia Emas 2045 melalui Jamu dan Desa Jamu berbasis Filosofi Djampi Oesodo	Mayor Jenderal TNI (Purn.) Dr. dr. Daniel Tjen, Sp.S. (Ketua Umum Dewan Jamu Indonesia (DJI)
15.15 – 16.00	“Desa Wisata Edukasi Djamoe Nusantara’ sebagai Anjungan Kesehatan Tradisional Holistik untuk Penguatan Kesehatan, Budaya Nusantara, dan Kesejahteraan Masyarakat Indonesia”	Prof. Dr.Ir. Moch. Sasmito Djati, MS (Ketua Dewan Jamu Jawa Timur)
16.00– 16.30	Diskusi	Moderator
16.30 – 17.00	Penutupan dan Pengarahan Presentasi Oral	MC

Hari/Tanggal : Minggu, 03 Desember 2023

Tempat : Fakultas Farmasi Unmul

Waktu	Acara
07.30 – 08.30	Registrasi dan Penayangan poster hasil penelitian
08.30 – 13.00	Seminar paralel presentasi oral secara hybrid

## TIME SCHEDULE PARALEL SESSION

RUANG KULIAH KF 1 (Moderator: Dr. apt. Niken Indriyanti, M.Si)			
WAKTU	Kategori	Nama Pemakalah	Judul Publikasi
08.00-08.15	Invited speaker 1	<b>Dr. apt. Victoria Yulita Fitriani, M.Farm-Klin</b>	The Potential of Probiotic Role in Tuberculosis Therapy : A Narrative Review
08.015-08.30	OPP1	Kartika Indah	Uji Aktivitas Antiinflamasi Minyak Atsiri Daun Lintut ( <i>Strobilanthes kalimantanensis</i> ) terhadap Mencit Jantan ( <i>Mus musculus</i> ) yang diinduksi Croton Oil
08.30-08.45	OPP2	Yulia Aryati	Utilization of Ambon Banana Juice ( <i>Musa paradisiaca</i> L.) Combination of Soy Milk and Honey as an Alternative to Increase Hemoglobin Levels for Adolescent Girls
08.45-09.00	OPP3	Nadhilah Lisa Hasyiyati	Uji Aktivitas Antioksidan Pada Ekstrak Kulit Batang Banitan ( <i>Monocarpia kalimantanensis</i> )
09.00-09.15	OPP4	Hana Raisa Saidah	Formulation of Clay mask form Etanol Extract of Kokang Leaves <i>Lepisanthes amoena</i> (Hassk) Leenh
09.15-09.30	OPP5	Bratandari Hana Candrakanti	Pigmen Stability Test of Kiactret Flower Extract ( <i>Spathodea campanulata</i> P. Beauv) As Alternative Sources of Pharmaceutical Excipients
09.30-09.45	OPP6	Militani Zebaothi I.DG	EYEBROW DYE FORMULA FROM SQUID INK ( <i>Loligo</i> sp.)
09.45-10.00	OPP7	Dina Salsabila	Formula Optimization of Anti-Aging Cream from Dayak Onion Bulb Extract ( <i>Eleutherine bulbosa</i> [Mill] Urb.) with Simplex Lattice Design (SLD) Method
10.00-10.15	OPP8	Andi Raihan Fadhil	Studi Etnofarmasi Tumbuhan Berkhasiat Obat Di Kecamatan Duampanua Kabupaten Pinrang Sulawesi Selatan
10.15-10.30	OPP9	Fernanda Aditya	Molecular Docking Study of Chloroflavanone Derived Compounds as Anticancer in the Aromatase Enzyme
10.30-10.45	OPP10	Kartika Sukma Dewi	Potential Toxicity of Banitan Plant Bark ( <i>Monocarpia kalimantanensis</i> )
10.45-11.00	OPP11	Ana Fauziyyah Rizqullah Ardani	Antibacterial Activity Test From Stem Bark Of Mangrove Rhizophora apiculata Against <i>Escherichia coli</i> , <i>Salmonella enterica</i> , and <i>Streptococcus mutans</i> Bacteria
11.00-11.15	OPP12	Otsuka Khaera Nurmala	Antimicrobial Activity from Extract and Fraction of Banitan Stem Bark ( <i>Monocarpia kalimantanensis</i> )
11.15-11.30	OPP13	Regita Nabilla Putri	Characterization of Tea Bag from Bay Leaves ( <i>Syzygium polyanthum</i> Wight.), Lemongrass ( <i>Cymbopogon citratus</i> ), and Ginger ( <i>Zingiber officinale</i> Rosc.) Simplicia
RUANG KULIAH KF 2 (Moderator: Abdul Rahim, M.Farm.)			
08.00-08.15	OPP16	Ferawati Salempang Putri	Anti-inflammatory Activity Test of Ethanol Extract and Telang Leaf Water Extract ( <i>Clitoria ternatea</i> L.) on Male White Rats ( <i>Rattus norvegicus</i> ) Induced by Carrageenan
08.15-09.30	OPP17	Ayu Lestari Dikma	Formulasi Sabun Cair Antiseptik Ekstrak Etanol Daun Insulin ( <i>Smallanthus sonchifolius</i> )

08.30-08.45	OPP18	Ayu Lestari	Skrining Fitokimia dan Uji Aktivitas Tabir Surya Ekstrak Etanol Daun Rambutan ( <i>Nephelium lappaceum</i> L.)
08.45-09.00	OPP19	Noor Fitriani	Skrining Fitokimia Dan Pengujian Toksisitas Ekstrak Etanol Buah Mangrove ( <i>Sonneratia ovata</i> ) Dengan Metode Brine Shrimp Lethality Test (BSLT)
09.00-09.15	OPP20	Meylani Widya Hartatik	Standardisasi Parameter Spesifik Umbi Bawang Dayak ( <i>Eleutherine bulbosa</i> (Mill.) Urb.) Dari Beberapa Wilayah Kalimantan
09.15-09.30	OPP21	Wahidah Asni	Formulasi Handwash Minyak Atsiri dan Hidrosol Kulit Jeruk Nipis ( <i>Citrus aurantifolia</i> ) Sebagai Antibakteri
09.30-09.45	OPP22	Dea Sefiana Putri	Uji Aktivitas Mukolitik dari Ekstrak Etanol Daun Sirsak ( <i>Annona muricata</i> Linn) Menggunakan Mukosa Usus Sapi Secara In Vitro
09.45-10.00	OPP23	Nela Ramadhani	Uji Stabilitas dan Hedonik Minuman Kombinasi Cokelat Hitam dan Ramuan Herbal untuk Mengatasi Dismenore Primer
10.00-10.15	OPP24	Lailatul Alivia	Uji Skrining Fitokimia dan Aktivitas Tabir Surya Ekstrak Daun Belimbing Wuluh ( <i>Averrhoa bilimbi</i> L.)
10.15-10.30	OPP25	Akbar Burhan	Uji Aktivitas Antioksidan Teh Herbal Kombinasi Rumput Laut ( <i>Eucheuma cottonii</i> ) dan Rimpang Jahe ( <i>Zingiber officinale</i> )
10.30-10.45	OPP26	Aji Siti Milah Chodijah	Formulasi Dan Evaluasi Masker Gel Peel Off Ekstrak Buah Karamunting ( <i>Rhodomyrtus tomentosa</i> ) Sebagai Antioksidan
10.45-11.00	OPP27	Firda Amalia	Standardisasi Umbi Bawang Dayak ( <i>Eleutherine bulbosa</i> [Mill.] Urb.) Endemik Kalimantan Dengan Parameter Non Spesifik
11.00-11.15	OPP28	Atikah Qanitha Helmi	Formulasi Sediaan Obat Kumur Ekstrak Etanol Kulit Durian ( <i>Durio ziberthinus</i> L.)
11.15-11.30	OPP29	Septia Rifka Indarwati	Formulasi Sediaan Gel Ekstrak Daun Jambu Biji ( <i>Psidium Guajava</i> L.) Sebagai Terapi Sariawan
<b>RUANG KULIAH KF 3 (Moderator: Nur Zakiyah, M.Farm)</b>			
08.00-08.15	OPP30	Syahida Ariyanti	Uji Aktivitas Analgesik Ekstrak Etanol Kombinasi Daun Sirsak ( <i>Annona muricata</i> L.) dan Daun Kersen ( <i>Muntingia calabura</i> L.) Pada Mencit ( <i>Mus musculus</i> ) dengan Metode Geliat
08.15-09.30	OPP31	Nurfitri	Karakteristik Teh Herbal Daun Kersen ( <i>Muntingia calabura</i> L.) dan Daun Salam ( <i>Syzygium polyanthum</i> ) Sebagai Antioksidan
08.30-08.45	OPP32	Annisa Nabilah	Pengaruh Kemoterapi terhadap Kadar Hematologi pada Pasien Kanker Payudara di RSUD dr. Kanujoso Djatiwibowo Balikpapan
08.45-09.00	OPP33	Marina	Formulasi Sediaan Spray Gel dari Minyak Atsiri Daun Lintut ( <i>Strobilanthes kalimantanensis</i> ) Sebagai Antibakteri
09.00-09.15	OPP34	Muhammad Rizky Aulia Rachman	Rekayasa Basis Untuk Pembuatan Permen Jelly Dengan Bahan Aktif Jahe Merah ( <i>Zingiber Officianale</i> Var. Rubrum)
09.15-09.30	OPP35	Chintiya Vera Nanda	Formulasi Sediaan Lip Cream Ekstrak Etanol Bunga Asoka ( <i>Ixora coccinea</i> ) Sebagai Pewarna Alami

09.30-09.45	OPP36	Leo Ronaldo	Kajian Literatur : Aktivitas Anti-Inflamasi, Antibakteri, Dan Antioksidan Dari Tanaman Genus Piper Spesies Sirih Merah ( <i>Piper Crocatum</i> ), Dan Sirih Hijau ( <i>Piper Betle L.</i> )
09.45-10.00	OPP37	Rinanty Ali	Ekstrak Kayu Secang sebagai pewarna blush on stick
10.00-10.15	OPP38	Ridzka Addia U Syfa	Uji Toksisitas Akut Rebusan Kulit Batang Bajakah Merah ( <i>Uncaria nervosa</i> Elmer) Pada Mencit Betina
10.15-10.30	OPP39	Teguh Pian Zudiansyah	Analisis Tingkat Pengetahuan dan Tindakan Ibu dalam Swamedikasi Diare pada Balita di Puskesmas Sambutan
10.30-10.45	OPP40	Nur Habibah	Evaluasi Distribusi dan Penyimpanan Vaksin di Beberapa Dinas Kesehatan Kalimantan Timur
10.45-11.00	OPP41	Silvia Ningsih Manurung	Evaluasi Penggunaan Obat pada Pasien Arthritis Gout di Instalasi Rawat Jalan Rumah Sakit Pupuk Kaltim Bontang Periode 2022
11.00-11.15	OPP42	Rizky Zulfikri	Karakteristik Pasien Kanker Payudara yang Menggunakan Fentanyl di Ruang Operasi Rumah Sakit Abdoel Wahab Sjhananie
11.15-11.30	OPP43	Nur Azizah	Uji Aktivitas Antioksidan Natto Dari Fermentasi Kacang Kedelai, Kacang Merah Dan Kacang Hijau dengan Metode DPPH
<b>RUANG KULIAH KF 4 (Moderator: Maryam Jamila Arief, M.S.Farm)</b>			
08.00-08.15	OPP44	Ervina Irmaya Sagita	Formulasi Sediaan Sabun Cair Ekstrak Etanol Daun Afrika ( <i>Vernonia Amygdalina</i> Delile) Dan Aktivitas Antibakterinya
08.15-09.30	OPP45	Miranda Ibau	Penentuan Nilai Sun Protection Factor (SPF) Ekstrak Etanol Rimpang Kunyit Hitam ( <i>Curcuma caesia</i> ROXB.) dengan Metode Spektrofotometri UV-Vis
08.30-08.45	OPP46	Yulia Kristiani	Karakterisasi Karagenan Rumput Laut ( <i>Eucheuma spinosum</i> ) daru Perairan Bontang Kalimantan Timur
08.45-09.00	OPP47	Feiby Yohana Runtuwene	Formulasi Sediaan Hair Tonic Ekstrak Etanol Daun Belimbing Wuluh ( <i>Averrhoa bilimbi</i> L.) dan Uji Efektivitas Pertumbuhan Rambut Pada Kelinci
09.00-09.15	OPP48	Raodhatul Jannah	Evaluasi Penggunaan Obat Antituberkulosis di Instalasi Rawat Jalan Rumah Sakit Umum Daerah Taman Husada Bontang
09.15-09.30	OPP49	Siska Nurmala	Karakterisasi Fisika Kimia Karagenan dari Rumput Laut ( <i>Eucheuma spinosum</i> ) Sebagai Basis Sediaan Gel
09.30-09.45	OPP50	SITI NOUR AZIZAH	Pengembangan Formulasi Biji Karet (Havea Brasiliensis) Dan Hanjeli ( <i>Coix laycryma-jobi</i> ) Sebagai Makanan Alternatif Snack Bar
09.45-10.00	OPP51	Alda Azmi	Pengaruh Pemberian Ekstrak Air Kunyit Hitam ( <i>Curcuma Caesia Roxb.</i> ) Dengan Metode Green Solvent Terhadap Kadar Glukosa
10.00-10.15	OPP52	Natashya Angelica Haniko	Aktivitas Antijamur Ekstrak Etanol Herba Kerokot ( <i>Lygodium microphyllum</i> )
10.15-10.30	OPP53	Alfenia Rahmayanti	Analisis Karakteristik Dismenore Pada Remaja Putri
10.30-10.45	OPP54	Setyo Rini Puji Astuti	Pengaruh Pemberian Jus Seledri ( <i>Apium graveolens</i> L.) Sebagai Anti Anemia Terhadap Hemoglobin Mencit ( <i>Mus musculus</i> ) Setelah Diinduksi Natrium Nitrit

10.45-11.00	OPP55	Hikma Hairatin Nabila	Uji Aktivitas Antioksidan Sediaan Serum Berbahan Aktif Ekstrak Umbi Bawang Dayak ( <i>Eleutherine bulbosa</i> [Mill] Urb.)
11.00-11.15	OPP56	Sayidati Nafi'atul Ummah	Formulasi Lilin Aromaterapi Berbahan Aktif Minyak Atsiri Bunga Kenanga ( <i>Cananga odorata</i> ) dan Kulit Jeruk Manis ( <i>Citrus sinensis</i> )
11.15-11.30	OPP57	Icha Safitri	Uji Efek Antidiare Ekstrak Rimpang Kunyit Hitam ( <i>Curcuma caesia Roxb.</i> ) Terhadap Mencit ( <i>Mus musculus</i> )
<b>RUANG GALLERY LABORATORIUM RISET (Moderator: apt. Noviyanty Indjar Gama, M.Si)</b>			
08.00-08.15	OPP58	Nada Zakiyah Annur	Formulasi dan Evaluasi Sediaan Emulgel Minyak Atsiri Serai Dapur ( <i>Cymbopogon citratus</i> ) Sebagai Antiinflamasi
08.15-08.30	OPP59	Shepia Nur Aulia	Formulasi Krim Tabir Surya dari Kombinasi Ekstrak Etanol Daun Kokang ( <i>Lepisanthes amoena</i> (Hassk.) Leenh) dan Daun Kersen ( <i>Muntingia calabura</i> L.)
08.30-08.45	OP4	Riska Febriyanti	Tingkat Pengetahuan, Sikap dan Perilaku terhadap Resistensi dan Penggunaan Antibiotik pada Masyarakat di Desa Kota Bangun Seberang
08.45-09.00	OPP60	Christin Elyana Sonda	Gambaran Penggunaan Obat Dan Kualitas Hidup Pasien Hemodialisis Di Rumah Sakit Samarinda Medika Citra
09.00-09.15	OPP61	Haani Adilah	Pengaruh Kemasan Penyimpanan Terhadap Kadar Senyawa Non Spesifik Kemangi ( <i>Ocimum basilicum</i> L.) Pada Suhu Tertentu
09.15-09.30	OPP62	Jihaan Nazhiirah Ilhaam	Efek Beta Sitosterol dan Kunyit Hitam ( <i>Curcuma caesia</i> ) Terhadap Berat Badan dan Abnormalitas Hati pada Mencit ( <i>Mus musculus</i> ) yang Diinduksi oleh Etanol
09.30-09.45	OPP63	Aulia Azzahrah	Uji Sifat Fisika Kimia dan Optimasi Basis Sediaan Salep Ekstrak Daun Kelor ( <i>Moringa Oleifera</i> )
09.45-10.00	OPP64	Sitti Mujahida Tahir	Observasi Klinik Penggunaan Obat Sariawan Pada Remaja
10.00-10.15	OP5	Fandy Wisnu Budiayana	Pengaruh Pemberian Kombinasi Teh Daun Jati Cina ( <i>Senna alexandrina</i> mill.) dan Cincau Hitam ( <i>Mesona palustris</i> BI) Sebagai Suplemen Serat Pada Penderita Konstipasi di Kecamatan Tenggarong Seberang
10.15-10.30	OPP65	Dayuh Anggun Mandalika	Hubungan Pelayanan Informasi Obat dengan Pengetahuan dan Tingkat Kepatuhan Pasien Hipertensi di Puskesmas Kerang Kecamatan Batu Engau
10.30-10.45	OPP66	Dina Arindha Febriani	Uji Aktivitas Antiinflamasi dan Analgesik Minyak Ular Sanca Kembang ( <i>Malayopython reticulatus</i> ) Secara In Vivo
10.45-11.00	OPP67	Aisyah Mursidah	Profil Fitokimia dan Uji Aktivitas Antibakteri Ekstrak Kulit Buah Nanas ( <i>Ananas comosus</i> (L.) Merr)
11.00-11.15	OPP68	Tri Ratnasari	Uji Aktivitas Antioksidan Berdasarkan Perbedaan Tingkat Kematangan Buah Alpukat ( <i>Persea americana</i> Mill.) Menggunakan Metode DPPH
11.15-11.30	OPP69	Andi Rahma Alya	Uji Aktivitas Antibakteri Ekstrak Etanol Daun Kersen ( <i>Muntingia calabura</i> Linn.) terhadap

			Bakteri Propionibacterium acnes dan Staphylococcus epidermidis
<b>AULA DEKANAT (Moderator: Venna Sinthary, M.Farm)</b>			
08.00-08.15	OPP70	Dharmawati	Skrinning Fitokimia Ekstrak Etanol dan Fraksi Kulit Bawang Merah ( <i>Allium cepa</i> L.)
08.15-09.30	OPP71	Chisilia Brydhita Karangan	Analisis Kadar Flavonoid Total Ekstrak Etanol Daun Kelakai Merah ( <i>Stenochlaena palustris</i> (Burm F.) Bedd) Berbantu Ultrasonik
08.30-08.45	OPP72	Nanda Arista Warno	Skrining Fitokimia dan Aktivitas Antioksidan Ekstrak Etanol daun Artocarpus integer dan Artocarpus elasticus
08.45-09.00	OPP73	Mersi	Profil Kromatografi Lapis Tipis Antioksidan Tumbuhan Gulma: <i>Axonopus compressus</i> (Sw.) P. Beauv and <i>Digitaria ciliaris</i> (Retz.) Koeler
09.00-09.15	OPP74	Nia Fevniaty Rupa'	Validasi Metode Dan Penetapan Kadar Kafein Menggunakan Spektrofotometri UV-Vis
09.15-09.30	OPP75	Ainun Saputri A.M. Tappi	Toksistas Akut Ekstrak Etanol Herba Krokot ( <i>Lygodium microphyllum</i> ) Secara In Vivo
09.30-09.45	OPP76	Muhammad Azril Rizqullah	Skrining Fitokimia dan Karakterisasi Minyak Biji Kemiri ( <i>Aleurites moluccana</i> L.) Phytochemical Screening and Characterization of Candlenut Seed Oil ( <i>Aleurites moluccana</i> L.)
09.45-10.00	OPP77	Dian Lia Karla Mumekh	Skrining Fitokimia dan Profil Kromatografi Lapis Tipis (KLT) Fraksi Daun Kadamba ( <i>Mitragyna speciosa</i> Korth.)
10.00-10.15	OPP78	Rika Amanda Kesia	Evaluasi Penyimpanan Dan Pengelolaan Vaksin Di Puskesmas Kabupaten Kutai Barat
10.15-10.30	OPP79	Mirda Fitria Islamika	Karakteristik Ekstrak Daun Kersen ( <i>Muntingia calabura</i> L.) Sebagai Kandidat Bahan Aktif Dalam Formulasi Gel Sleeping Mask
10.30-10.45	OPP80	Melin Sagita Duma	Formulasi Sediaan Hair tonic Kombinasi Etil Asetat Daun Cempedak ( <i>Artocarpus integer</i> (Thunb.) Merr.) Dan Metanol Lidah Buaya ( <i>Aloe vera</i> ) Sebagai Penumbuh Rambut.
10.45-11.00	OPP81	Desy Hernawati	Analisis Penggunaan Obat DMARD dan Antiinflamasi pada Pasien Penderita Rheumatoid Arthritis Di Rumah Sakit Abdoel Wahab Sjahranie Samarinda
11.00-11.15	OPP83	Juan Julyannisa Virnanda Ilham	Formulasi Sediaan Gel Antijerawat Fraksi Etil Asetat Kulit Batang Bajakah ( <i>Uncaria nervosa</i> Elmer)
11.15-11.30	OPP84	Hamenda	Uji Aktivitas Antibakteri Ekstrak Etanol Kulit Batang Matoa ( <i>Pometia pinnata</i> ) Terhadap Bakteri Penyebab Jerawat
11.15-11.30	OPP85	Ina Annisa Rahmadina	Formulasi Sediaan Serum Wajah Dari Ekstrak Sarang Burung Walet (Edible bird's nest).
<b>RUANG TEATER LABORATORIUM RISET (Moderator: Vita Olivia Airegar, M.S.Farm)</b>			
08.00-08.15	OPP86	Brilian Dwisaputra Bandu	Skrining Fitokimia Dan Optimasi Basis Spray Gel Ekstrak Etanol Kulit Bawang Putih ( <i>Allium Sativum</i> L.) Sebagai Anti Jerawat
08.15-09.30	OPP87	Nugra Ilmahdi	Kajian Metabolit Sekunder dan Potensi Antibakteri Daun Banitan ( <i>Monocarpia kalimantanensis</i> )

08.30-08.45	OPP88	Andi Mulahaera M. H	Karakteristik dan Pola Pengobatan Analgesik pada Pasien Post Sectio Caesarea di RSIA Jimmy Medika Borneo Samarinda
08.45-09.00	OPP89	Arden Alvern Tobing	Formulasi dan Evaluasi Sampo Bubuk Berbahan Aktif Biji Kemiri ( <i>Aleurites moluccana L.</i> )
09.00-09.15	OPP90	Muhammad Dewantara Cahyadi	Uji Aktivitas Antiaging Secara In Vitro Ekstrak dan Fraksi – Fraksi Umbi Bawang Dayak ( <i>Eleutherine bulbosa</i> [Mill.] Urb.) Dengan Metode Inhibitor Tirosinase
09.15-09.30	OPP91	Nur Jihan Nabillah	Formulasi dan Evaluasi Sediaan Bedak Tabur Dengan Limbah Kulit Pisang Kepok ( <i>Musa paradisiaca L.</i> ) Sebagai Pewarna Alami
09.30-09.45	OPP92	Ghinaa Fairuuz Lithiflika	Formulasi Sediaan Gel Pewarna Rambut Dari Ekstrak Bunga Rosela ( <i>Hibiscus sabdariffa L.</i> )
09.45-10.00	OPP93	Meisya	Formulasi Cookies Ubi Jalar Ungu ( <i>Ipomoea batatas L.</i> ) dan Daun Kersen ( <i>Muntingia calabura L.</i> ) Sebagai Makanan Selingan
10.00-10.15	OPP94	Nietia Juliyati	Formulasi Dan Evaluasi Sifat Fisik Sediaan Lipstik Dari Ekstrak Bayam Merah ( <i>Amaranthus Tricolor</i> ) Sebagai Zat Pewarna Dengan Basis Paraffin Wax Dan Beeswax
10.15-10.30	OPP95	Natasya Deva Suryani	Pengaruh Edukasi Kesehatan dan Pesan Pengingat Terhadap Efektivitas Terapi Pasien Diabetes Melitus Di Puskesmas Segiri Samarinda
10.30-10.45	OPP96	Zahra Zattira Oktaviani	Skrining Fitokimia dan Karakterisasi Nanopartikel Ekstrak Bawang Dayak ( <i>Eleutherine Americana</i> (L. Merr), serta Kajian Literatur Nanopartikel Sebagai Antihiperqlikemia
10.45-11.00	OPP97	Yuliana Sari	Isolasi dan Karakteristik Fungi Endofit dari Daun Tahongai ( <i>Kleinhovia hospital L.</i> )
11.00-11.15	OP9	Muhammad Ryan Ananda Putra	Laporan Kasus: Gangren Pedis Dextra pada Pasien Diabetes Mellitus
11.15-11.30	OPP98	Arjuansyah	Identifikasi Potentially Inappropriate Medications (PIM's) Menggunakan Kriteria Beers dan STOPP Pada Pasien Geriatri Kardiovaskuler di RSUD Inche Abdoel Moeis
<b>RUANG UNMUL HUB SEBELAH KIRI RUANG TEATER (Moderator: apt. Adam M. Ramadhan, M.Sc)</b>			
08.00-08.15	OPP99	Nurvidya Sistha Azzahra	Isolasi dan Karakterisasi Jamur Endofit Daun Belimbing Hutan ( <i>Cnestis palala</i> (Lour.) Merr)
08.15-09.30	OPP100	Tri Riski Amalia	Karakterisasi dan Pengaruh Komposisi Kitosan terhadap Stabilitas Ukuran Nanopartikel Ekstrak Bawang Dayak ( <i>Eleutherine americana</i> )
08.30-08.45	OP13	Wiwit Pura Nurmayanti, M.Si	Analisis Data Transaksi Penjualan Obat Menggunakan Algoritma Apriori dan Fp-Growth Berbasis Association Rules
08.45-09.00	OPP102	Annisa Nismaul Husna	Skrining Fitokimia Ekstrak Etanol 96% Daun Cabai Rawit ( <i>Capsicum frutescens L.</i> ) Phytochemical screening of ethanol 96% cayenne pepper leave ( <i>Capsicum frutescens L.</i> )
09.00-09.15	OPP103	Nintra Mahdan Liranti	Optimasi Pembuatan Nanopartikel Ekstrak Bawang Dayak ( <i>Eleutherine bulbosa</i> (Mill.) Urb.) Berdasarkan Konsentrasi Kitosan
09.15-09.30	OPP104	Atika Febriyana	Karakterisasi Pangan Fungsional Biskuit dari Tepung Jagung ( <i>Zea mays L.</i> ) dan Bee Pollen

09.30-09.45	OPP105	Nurul Fadhilah	Pengaruh Beberapa Variasi Konsentrasi Kitosan Terhadap Potensial Zeta Nanopartikel Ekstrak Bawang Dayak ( <i>Eleutherine bulbosa</i> )
09.45-10.00	OPP106	Rahmayunitha Muriana	Identifikasi Potentially Inappropriate Medication (PIM's) Menggunakan Kriteria Beers dan STOPP Pada Pasien Geriatri Dengan Diagnosis Gastrointestinal Rawat Inap Di RSUD Abdul Wahab Sjahranie Samarinda
10.00-10.15	OPP107	Jalu Iqbal Tawakal	Kajian Indeks Glikemik Nasi Kombinasi Daun Salam ( <i>Syzygium polyanthum</i> ) dan Sereh Dapur ( <i>Cymbopogon citratus</i> DC)
10.15-10.30	OPP108	Putri Chintya Rahman	Formulasi Sediaan Hair Conditioner Kombinasi dari Merang Padi ( <i>Oryza sativa</i> L.) dan Ekstrak Bunga Kembang Sepatu ( <i>Hibiscus rosa-sinesis</i> L.)
10.30-10.45	OPP109	Salsabila Sudirman	Kajian Etnobotani Tumbuhan Obat Oleh Masyarakat Suku Bali di Desa Kerta Buana Kecamatan Tenggarong Sebrang
10.45-11.00	OPP111	Muhammad Ramadhan Nur	Gambaran Praktik Standar Pelayanan Kefarmasian Apoteker Di Apotek Kota Samarinda
11.00-11.15	OPP113	Setiyawati Indahsari	Formulasi Cookies Daun Kelor ( <i>Moringa oleifera</i> ) Kombinasi Bengkuang ( <i>Pachyrhizus erosus</i> ) Sebagai Makanan Selingan
11.15-11.30	OPP114	Dewi Wahyuni	Optimasi Dan Uji Aktivitas Sediaan Patch Ekstrak Daun Binahong ( <i>Anredera Cordifolia</i> ) Terhadap Penyembuhan Luka Sayat
<b>RUANG UNMUL HUB SEBELAH KANAN RUANG TEATER (Moderator: Dalifa, M.Farm)</b>			
08.00-08.15	OP19	Zulhaerana Bahar	PENGARUH KONSENTRASI TRIETANOLAMIN (TEA) TERHADAP STABILITAS FISIK FORMULA STANDAR VANISHING CREAM
08.15-09.30	OP20	Zulhaerana Bahar	REVIEW: APLIKASI SISTEM CRISPR/CAS9 DAN REKOMBINASI HOMOLOG $\lambda$ -RED PADA BAKTERI ESCHERICHIA COLI
08.30-08.45	OP30	Yurika Sastyarina	Uji Aktivitas Antioksidan Nanopartikel Ekstrak Bawang Dayak ( <i>Eleutherine americana</i> (Aubl.) Merr) dengan Metode DPPH
08.45-09.15	OP31 OP33	Fajar Prasetya	Bioaktivitas Kratom (in silico) pada Penghambatan Glial Activation dalam Potensinya sebagai Narkotik non-toleransi dan non-dependansi  Aktivitas Antiinflamasi Ramuan Jamu Dismenore (Kunyit, Jahe Merah, Sambiloto, Kelor, Cokelat Hitam) Melalui Penghambatan Enzim Siklooksigenase Secara In Vitro
09.15-09.45	OP25	Joni Tandil	Uji Efek Ekstrak Daun Pepaya Terhadap Gambaran Histopatologi Pankreas Tikus Putih Jantan Yang Diinduksi Streptozotocin
09.45-10.00	OP29 OP35	Tien Wahyu Handayani	Pengaruh Ekstrak Daun Gedi Merah ( <i>Abelmoschus manihot</i> ) (L. Medik) Kadar Kolesterol Total Putih Jantan Hiperkolesterolemia Diabetes  Uji Efek Ekstrak Etanol Daun Miana Terhadap Gambaran Histopatologi Ginjal Tikus Putih Jantan Diabetes

10.00-10.15	OPP116	Christin Claritha Mote	Pola Pengobatan Pada Pasien Malaria Di Rumah Sakit Umum daerah (RSUD) Timika Kabupaten Mimika
10.15-10.30	OPP14	Salsabila Jat Dwiningrum	Potential of Guava Leaf ( <i>Psidium Guajava</i> ) and Soursop Leaf ( <i>Annona Muricata</i> L.) Combination Tea Bags as Antioxidants
10.30-10.45	OPP15	Raisha Salwa Nabilah	The Specific and Non-Specific Parameter Determination on Herbal Teabag of White Turi Leaf ( <i>Sesbania grandiflora</i> (L.) Pers.)
10.45-11.00	OPP82	Rima Haerunnisa	Formulasi Cookies Kombinasi Labu Kuning ( <i>Cucurbita moschata</i> ) dan Tepung Kulit Pisang Kepok ( <i>Musa acuminata</i> x <i>Musa balbisiana</i> ) Untuk Penderita Diabetes Mellitus Tipe 2
11.00-11.15	OPP85	Ina Annisa Rahmadina	Formulasi Sediaan Serum Wajah Dari Ekstrak Sarang Burung Walet (Edible bird's nest).
<b>ROOM MEETING 2 LABORATORIUM RISET (Moderator: Dr. apt. Helmi, S.Farm)</b>			
<b>PEMAKALAH VIA ZOOM MEETING</b>			
08.00-08.30 WITA		Pengumpulan ppt kepada moderator melalui chat zoom untukantisipasi jika pemakalah tidak bisa <i>share screen</i>	
08.30-08.45	OP1	Ayu Shabrina	Perbandingan Stabilitas Fisik dan Efektivitas Nanoemulsi dan Nano-emulgel Minyak Alpukat dengan Variasi Carbopol 940
08.45-09.00	OP6	Hendri Satria Kamal Uyun	Efek Sitotoksik Ekstrak Etanol Daun Sirih Hutan ( <i>Piper aduncum</i> L.) terhadap Sel Kanker Payudara T47D dengan Metode MTT
09.00-09.15	OP22	Marisca Evalina Gondokesumo	BENEFITS OF INDONESIAN SAINTEFIC JAMU IN THE TREATMENT OF VARIOUS DISEASES: A REVIEW
09.15-09.30	OP27	Yasinta Rakanita	PENGARUH EKSTRAK GEDI PUTIH TERHADAP PENURUNAN KADAR KOLESTEROL PADA TIKUS PUTIH JANTAN HIPERKOLESTEROLEMIA-DIABETES
09.30-09.45	OP28	Syafika Alaydrus	Uji sitotoksitas in vitro alfa mangostin terhadap sel kanker prostat DU145 Dengan metode WST8
09.45-10.00	OP32	Rezky Yanuarty	Uji Efek Ekstrak Etanol Daun Pepaya ( <i>Carica papaya</i> L) Terhadap Gambaran Histopatologi Ginjal Tikus Putih Jantan ( <i>Rattus norvegicus</i> ) Yang Diinduksi Streptozotocin
10.00-10.15	OP34	Ayu Wulandari	Uji aktivitas antioksidan formula minyak herbal STIFA Pelita Mas dengan metode 1,1-Diphenyl-2-picrylhidrazil (DPPH)
<b>RUANG 9 RUANG SIDANG 2 DEKANAT</b>			
08.15-09.30	OP3	Niken Indriyanti	Analisis Drug Related Problems (DRPs) Seorang Pasien Obesitas yang Menggunakan Obat Antihipertensi dan Antidiabetik Oral
08.30-08.45	OP7	Maryam Jamila Arief	Analisis Drug Related Problems (DRPs) Seorang Pasien Lansia yang menderita Diabetes Mellitus tipe 2, Hipertensi dan Gout
08.45-09.00	OP8	Venna Sinthary	Laporan Kasus: Epilepsi disertai Defisiensi Hormon Kortisol
09.00-09.15	OP15 OP10	Abdul Rahim	Studi Kasus Penyakit Hipertensi dengan Riwayat Stroke dan Dislipidemia

			Skrining Fitokimia dan Analisis Kromatografi Lapis Tipis Senyawa Antioksidan Kacang Lebul Lombok ( <i>Cajanus Cajan L</i> )
09.15-09.30	OP11	Helmi	A Case Report of Treatment in a Post-Stroke Epilepsy Patient with Hypertension and Hypercholesterolemia Comorbidities
09.30-09.45	OPP101	Nurul Muhlisa Mus	Laporan Kasus: Asuhan Kefarmasian Penggunaan Obat Anti Hipertensi pada Pasien Hipertensi Dengan dan Tanpa Komplikasi
09.45-10.00	OP12	Noviyanty Indjar Gama	Cases Report: Epilepsy in young Woman
10.00-10.15	OP14	Hery Kurniawan	Analisis Drug Related Problems (DRPs) pada Pasien dengan Gagal Ginjal Kronis Stage V, Anemia dan Kolelitiasis yang Sedang Menjalani Hemodialisis
10.15-10.30	OPP110	Siti Rouchmana	Analisis Drug Related Problems (DRPs) Obat Anti Tuberkulosis pada Seorang Pasien Tuberkulosis Paru Dengan Metode SOAP
10.30-10.45	OP17	Risna Agustina	Rasionalisasi Pengobatan Pada Pasien Dengan Penyakit Gangguan Saluran Pencernaan
10.45-11.00	OPP112	Adam M. Ramadhan	Laporan Kasus: Kajian Pengobatan Thiamazole dan Bisoprolol Pada Pasien Hipertiroid
11.00-11.15	OP18	Imelda Wulandari	Laporan Kasus: Potensi Interaksi Dan Efek Samping Obat Simvastatin, Amlodipine, Captopril, Dan Wiros Pada Pasien Rawat Jalan
11.15-11.30	OPP115	Onny Ziasti Fricillia	Laporan Kasus: Analisis Drug Related Problems (DRPs) Pada Pasien Hipertensi, Diabetes Mellitus, dan Hiperurisemia dengan Nefrolitiasis
11.30-11.45	OP21	Dewi Rahmawati	Laporan Kasus: Terapi Penggunaan Insulin Pada Diabetes Melitus dengan Gagal Ginjal Kronik Stage 5 dan Anemia

**TIME SCHEDULE POSTER SESSION  
(POSTER PRESENTATION)**

**Display poster terpilih**

01-03 Desember 2023

Lokasi:

1. Gedung Prof. Dr. Masjaya (Unmul Hub) Lt 1
2. Area stand pameran

**Display file poster**

Waktu:

1. Awal Plenary Session
2. Setelah Plenary Session 1
3. Setelah Plenary Session 2
4. Waktu jeda pada jadwal oral presentation daring

Tempat:

1. Ruang seminar
2. Room zoom

## INVITED SPEAKER

### The Potential of Probiotic Role in Tuberculosis Therapy : A Narrative Review

Victoria Yulita Fitriani<sup>1\*</sup>, Budi Surapti<sup>2</sup>, Muhammad Amin<sup>3</sup>

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<sup>2</sup>Department of Clinical Pharmacy, Faculty of Pharmacy, Airlangga University, Surabaya, Indonesia

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#### Abstract

Tuberculosis is an infectious disease that is a leading cause of death globally, as well as one of the top ten causes of death from a single infectious agent. Antibiotics treatment for tuberculosis reduces pro-inflammatory cytokines, which is one of the reasons for dysbiosis. The proportion of *Actinobacteria*, *Firmicutes*, and *Bacteroidetes* in the gut microbiota distinguishes between drug-sensitive and drug-resistant tuberculosis. The gut–lung axis theory explains how tuberculosis alters the gut microbiota while also altering the immune response. Probiotics have immunostimulatory and immunoregulatory properties that affect the immune system. The gut–lung axis is a two-way system that enables microbial products, endotoxins, metabolites, hormones, and cytokines to reach the bloodstream that connects the intestines and lungs, where they exert effects on both. According to the gut–lung axis theory, probiotics may play a role in tuberculosis immune responses. This review includes studies conducted in English and Indonesian from 2010-2022. The Cochrane Library, Scopus, Medline, PubMed, and grey literature databases will be used in the review. Studies that use specimens from pulmonary tuberculosis patients, healthy volunteers induced by *Mycobacterium tuberculosis*, volunteers with a history of pulmonary tuberculosis disease, and volunteers who had close contact with pulmonary tuberculosis patients were considered eligible. The current review highlights the immune modulation induced by probiotics usage in tuberculosis. Accordingly, probiotics have been shown to enhance the immune response against tuberculosis. More studies are needed to understand probiotic's role in different types of tuberculosis, and the influence of different probiotic bacteria on immune modulation.

Keywords: Gut-Lung Axis; *Lactobacillus*; Microbiota; Immunity; *Mycobacterium tuberculosis*

OP1

**Physical Stability and Effectivity Comparison Of Nanoemulsion and Nano-Emulgel of Avocado Oil With Carbopol 940 Variation**

**Ayu Shabrina<sup>1\*</sup>, Junviyda Heroweti<sup>2</sup>, Gharsina Ghaisani Yumni<sup>3</sup>, Diana Annisa<sup>4</sup>, Agnes Theresia Poerba<sup>4</sup>**

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**Abstract**

Avocado oil (AV) can be used to prevent skin erythema. Nanoemulsion (NE) in a gel system (NEG) is a delivery system that increase drug's effectivity. The aim of this study was to compare the stability and effectivity of AV in NE and NEG with variations of carbopol 940. NE was made with 5% of AV and incorporated in carbopol 940 variations of 0.5 (F1), 1 (F2) and 1.5% (F3). The preparation was stored in a climatic chamber for 90 days at a temperature of  $30\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$  RH  $65\% \pm 5\%$ . Samples were tested for organoleptics, pH, viscosity, particle size (PS), polydispersity index (PDI), zeta potential (ZP). The effectivity of NE and NEG MA was tested based on in vitro SPF values and minimum erythemat dose (MED). The results show that NE has a clear appearance and one phase. NEG shows a white color with a creamy texture. The physical parameters met the criteria for nanoemulsion delivery. F1 NEG showed an increase in all physical parameters while F2 and F3 were stable during the storage. The SPF NE and NEG values were not significantly different yet the MED showed differences in each formula. Carbopol at a concentration of 0.5-1.5% can produce stable nano-emulgel. Nanoemulsion of AV showed better stability than nano-emulgel.

**Keywords:** avocado oil, erythema, nanoemulsion, nanoemulgel, stability

OP3

**Drug Related Problems (DRPs) Analysis of an Obesity Patient Who Received Antihypertension and Oral Antidiabetic Drugs**

**Niken Indriyanti<sup>1\*</sup>, Theresia Fenny Oktarina<sup>2</sup>, Andi Atirah Melinda Septiani<sup>3</sup>, Nila Shafira Sukmawati<sup>4</sup>, Winchy Putri Cantika<sup>5</sup>, Erin Febi Meliana Pasaribu<sup>6</sup>, Melynda Rahma<sup>7</sup>, Muhammad Abil Arqam<sup>8</sup>, Aulia Safitri<sup>9</sup>, Rezky Nur Ardyah<sup>10</sup>**

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**Abstract**

Metabolic disorder needs lifelong treatment, in order to increase their quality of life. Medication adherence and healthy lifestyle is a key to stabilize patient's condition. This research is a case report of an obesity woman aged 50 yo who received amlodipine, simvastatin, dan metformin. Patient had embolic stroke 13 years ago. Patient's blood pressure is 144/81 mmHg, fasting blood glucose level is 211 mg/dL, cholesterol level is 279 mg/dL, body weight 59 kg, 150 cm tall. Nutritional status of this patient is obesity level 1 due to BMI 26,2. DRP analysis was performed by using literature review. Some DRPs occurs, but it can be solved by educating patient. Some dose arrangements can be useful for this patient.

**Keywords:** Diabetes Melitus, DRPs, amlodipine, simvastatin

OP4

**Level Of Knowledge, Attitudes And Behavior Towards Antibiotic Resistance And Use  
In The Community In Kota Bangun Seberang Village**

**Riska Febriyanti\*, Nur Masyithah Zamruddin, Adam M. Ramadhan**

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**Abstract**

Antibiotics are highly used drugs in Indonesia to treat infections. However, low public knowledge about antibiotics leads to their inappropriate and irrational use. Inappropriate use of antibiotics will eventually increase health problems in the form of resistance. This study aims to determine the level of knowledge, attitudes and behavior towards resistance and the use of antibiotics in the community in Kota Bangun Seberang village. The method used in this research is observational analysis with cross sectional study approach. Data collection was conducted by interviews using questionnaires consisting of questions about resistance and antibiotic use. Sample collection of 80 people using purposive sampling technique. Data were analyzed univariately and bivariately using the Spearman correlation test. The results showed that the majority of respondents' knowledge level was in the good category by 55%, the majority of respondents' attitudes were in the moderate category at 47.5%, and the majority of respondents' behavior was in the good category at 51.25%. Spearman correlation test showed that there was no correlation between the level of knowledge and attitude, as well as the relationship between attitude and behavior of respondents regarding antibiotic resistance and use ( $\text{sig} > 0.01$ ), and there was a very strong positive correlation between the level of knowledge and antibiotic use behavior of respondents ( $\text{sig} < 0.01$ ).

**Keywords:** Antibiotic Use, Knowledge, Behavior, Resistance, Attitude

OP5

**Effect of Giving a Combination of Chinese Teak Leaves Tea (*Senna alexandrina* Mill.) and Black Grass Jelly (*Mesona palustris* Bi) as a Fiber Supplement to Constipation Sufferers in Tenggara Seberang District**

**Fandy Wisnu Budiyan<sup>1\*</sup>, Fajar Prasetya<sup>2</sup>, Wisnu Cahyo Prabowo<sup>3</sup>**

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**Abstract**

Constipation or difficulty defecating is a failure to respond the urge to defecate. Insufficient fiber and fluid intake can cause constipation because the stool mass is reduced and it is difficult to defecate. Efforts to overcome constipation are by consuming fiber and fluids. Chinese teak leaf tea with a combination of black grass jelly can be alternative to treat constipation because Chinese teak leaf tea contains compounds that can have a laxative effect and black grass jelly has a high fiber content. This type of research is quantitative in the form of a quasi-experimental non-aquivalent control group pre- and post-test design. The population is 20 people suffering from constipation in Tenggara Seberang District. The intervention was carried out for 3 days with a dose once a day. The results of this research are based on the P value obtained through the Friedman test, namely  $0.00 < 0.05$ . This shows the influence of giving a combination of Chinese teak leaf tea (*Senna alexandrina* mill.) and black grass jelly (*Mesona palustris* BI) as a fiber supplement on the schedule. defecation, feelings, the patient during defecation, the shape of the stool, efforts to expel the stool and the patient's feelings after defecation.

**Keywords:** Constipation, Fiber, Chinese Teak Leaf Tea, Black Grass Jelly

OP6

**Efek Sitotoksik Ekstrak Etanol Daun Sirih Hutan (*Piper aduncum* L.) terhadap Sel Kanker Payudara T47D dengan Metode MTT**

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**Abstrak**

Pengobatan kemoterapi diketahui memiliki efek samping mulai dari ringan hingga berat yang dapat mempengaruhi kualitas hidup pasien. Bahan alam adalah salah satu sumber alternative senyawa sitotoksik untuk pengobatan kanker. Daun sirih hutan (*Piper aduncum* L.) merupakan tumbuhan obat yang diketahui memiliki aktivitas sitotoksik. Penelitian ini bertujuan untuk menentukan aktivitas sitotoksik dari ekstrak etanol daun sirih hutan *P. aduncum* L. menggunakan metode *Microculture Tetrazolium Test* (MTT). Hasil skrining fitokimia menunjukkan sampel mengandung alkaloid, flavonoid, saponin, fenol dan steroid/terpenoid. Aktivitas sitotoksik diujikan pada sel kanker payudara dengan konsentrasi larutan uji 100 µg/mL, 10 µg/mL, 1 µg/mL, dan 0.1 µg/ML. Dari penelitian ini didapatkan nilai IC<sub>50</sub> ekstrak etanol daun sirih hutan *P. aduncum* L. adalah 171.2 µg/mL, tergolong pada kategori aktivitas sitotoksik moderate. Dapat disimpulkan bahwa *P. aduncum* L. memiliki potensi sebagai agen antikanker.

**Keywords:** IC<sub>50</sub>; kanker; *Piper aduncum* L.; sitotoksik

**Analysis of Drug-Related Problems (DRPs) in an Elderly Patient with Type 2 Diabetes Mellitus, Hypertension, and Gout**

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**Abstract**

One of the frequently encountered health issues is Drug-Related Problems (DRPs). The occurrence of DRPs can be influenced by various factors, particularly the patient's age, chronic diseases, and polypharmacy. In this case, the patient is diagnosed with Type 2 diabetes mellitus, hypertension, and gout. The patient is a 64-year-old male who complains of bloating, frequent drowsiness, and joint pain. He has been dealing with hypertension and diabetes mellitus for the past 9 years. The patient's weight is 110 kg, and his height is 170 cm. Previously, the patient was prescribed with Galvusmet, Canderin 16 mg, Gluvas M, Herbesser CD 100 mg, and Nevodio. While taking these medications, the patient frequently reported nausea, blurred vision, cold sweats, difficulty concentrating, and easy fatigue. Upon examination, the patient's blood pressure was 120/80 mmHg, blood sugar level was 143 mg/dl, and uric acid level was 10 mg/dl. This case report is analyzed using the SOAP method. The results of the case report indicate three categories of DRPs: unnecessary therapy for gout, drug overdose with Canderin, Galvusmet, Gluvas M, Herbesser CD 100mg, and adverse drug reaction with metformin, leading to side effects such as nausea and abdominal bloating.

**Keywords:** DRPs, Type 2 Diabetes Mellitus, Hypertension, Gout

**Case Report: Epilepsy Accompanied by Hormone Cortisol Deficiency**

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**Abstract**

Epilepsy is a neurological disorder characterized by repeated attacks due to excessive and abnormal neuronal activity in the brain cortex which occurs spontaneously without any direct cause as in acute illnesses. Many factors considered in understanding seizures in epilepsy, especially hormones involvement and interaction between anti-epileptic drugs with hormones. The hormone cortisol often referred as stress hormone. Stress is one of the triggers for epilepsy recurrence. Hormone cortisol deficiency is a disorder caused by the inability of the adrenal glands to produce enough glucocorticoid hormones (cortisol) for the body. In this study, we report the case of a 15 years old female patient who suffered from epilepsy accompanied by cortisol hormone deficiency. The patient was reported to have never suffered from this disease and there was no family history of the disease. We describe the patient's symptoms, the results of the diagnosis and therapy provided as well as the effect of therapy on the patient. The patient's treatment has been carried out for 2 years and 6 months. The thorough examination of this patient's case is intended to shed light on fundamental concepts that should be taken into account while managing patients who have epilepsy accompanied by the hormone cortisol.

**Keywords:** Epilepsy, hormones, hormone cortisol deficiency

**Case Report: Gangrene Pedis Dextra In Diabetic Patient**

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**Abstract**

Gangrene Pedis Dextra is a condition that is often found in diabetes mellitus sufferers, namely the death of tissue in the right leg due to obstruction of the blood vessels that provide nutrition to the tissue and is a form of complication of diabetes mellitus. This case report discusses appropriate pharmaceutical care for the condition of diabetes mellitus with gangrene pedis dextra by carrying out debridement treatment and adding antibiotics, namely broad spectrum cephalosporin antibiotics such as cefotaxime 3x1 IV 1-2 grams for 2-4 weeks. The use of analgesics is Santagesic 3x1 I.V and ketorolac 3X1 I.V 30 mg. Added supportive therapy omeprazole 1x1 IV to overcome the side effects of NSAID analgesics. The conclusion in this case is that pharmaceutical care for diabetes mellitus with gangrene pedis dextra is in accordance with the standard therapeutic regimen.

**Keywords:** Diabetic Mellitus, Gangrene Pedis Dextra

**Skrining Fitokimia dan Analisis Kromatografi Lapis Tipis Senyawa Antioksidan  
Kacang Lebui Lombok (*Cajanus Cajan L*)**

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**Abstract**

Antioxidants are compounds that can prevent the formation of free radicals that will attack DNA cells. This study was conducted to determine the content or active compounds that have the potential as antioxidants in Lombok lebu beans (*Cajanus cajan*). The extract used was 70% ethanol extract, then fractionated using the liquid-liquid method. The results of the obtained fractions were tested by *thin layer chromatography* (TLC) with vitamin C standar as a comparison. In the TLC test with ethyl acetate: methanol: formic acid (8:2:0.5) eluent with vitamin C standard. Testing of antioxidant activity was carried out by spraying DPPH on the TLC plate. The TLC test result obtained that the  $R_f$  value of Lombok lebu bean extract was 0.8, the  $R_f$  value for fraction (n-hexane) was 0.8, the  $R_f$  value of fraction II (ethyl acetate) was 0.8, and the standard  $R_f$  value for vitamin C which indicated the presence of antioxidant compounds, while the  $R_f$  value for vitamin C fraction was 0.8. fraction III (methanol) 0.2 indicates the absence of antioxidant compounds. The result of the qualitative test showed that Lombok lebu bean extract, fraction I (N-hexane), and fraction II (*ethyl acetate*) contained antioxidants which were indicated by the appearance of yellow spots when sprayed DPPH solution (1,1-diphenyl-2-picrylhydrazyl) on TLC plate with the same spot color as the standard comparator, namely vitamin C (ascorbic acid).

**Keywords:** Antioxidant, *Cajanus cajan*, DPPH, Fractionation

**A Case Report of Treatment in a Post-Stroke Epilepsy Patient with Hypertension and Hypercholesterolemia Comorbidities**

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**Abstract**

Stroke is a multifactorial cerebrovascular disease that closely related to post-stroke epilepsy. This condition requires the appropriate principal and supportive treatments for a long time, especially in patients with chronic comorbidities. This case reported, a man aged 62 years old was hospitalized after a partially paralyzed, aphasia and frequently seizures. Patient had uncontrolled hypertension, diabetes mellitus and hypercholesterolemia and also non hemorrhagic stroke for 2 years ago. The patient treatment was analyzed with subjective, objective, assessment and plan (SOAP) method and was reviewed using the related literatures. This result showed that rearrangement of the outpatient treatment was required to optimize the therapy outcome, especially for his post-stroke epilepsy with their comorbidities condition.

**Keywords:** chronic disease, comorbidities, post-stroke epilepsy, SOAP method

**Cases Report: Epilepsy in Young Woman**

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**Abstract**

Epilepsy is a chronic disorder of the brain characterized by recurrent seizures caused by excessive electrical discharges in a group of nerve cells. Epilepsy is one of the causes of morbidity that can attack all ages. This disease can reduce the quality of life for sufferers. It estimated that around 50 million people suffer from epilepsy in the world, and 80% of the total sufferers come from developing countries. Seizures occur due to excessive excitation or due to irregular inhibition of neurons. This case report concerns female epileptic patient (14 year old) in outpatient treatment. The patient received anti-epileptic drug therapy (AED), namely Depakote, Folic Acid and Kutoin. The therapy had given can control the patient's seizure condition for three years without any side effects or adverse drug reactions.

**Keywords:** Epilepsy, Management, Anti-Epileptic Drugs (AED).

**Analysis on Medicine Sales Transactions Data Sets Using Apriori Algorithm and Fp-Growth Based on Association Rules**

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**Abstract**

Association Rule is a Data Mining technique that is used to search for a group of items that often appear together in an event and is often analogous to a market basket. Algorithms in the Association Rule include Apriori and Frequent Pattern Growth (Fp-Growth). We can apply these two algorithms in various fields, one of which is in the pharmaceutical sector, namely related to drug sales transactions in pharmacies. The aim of this research is to see a picture of drug sales transactions at Pharmacy X, Samarinda City, and to find out the best algorithm for determining drug sales transaction patterns at the pharmacy. Based on the results of the analysis, information was obtained that of the 106 transactions, the highest number of drugs sold was the first type of drug ChargeR which was purchased in 7 transactions and Codein10mg purchased in 6 transactions, then there were Channa Capsules, Lapicef500mg (Cefadroxil), Nymiko Dop 12ml (Nystatin), Degiro, Oscal0.5Caps (Calcitriol) 30s and Methylprednisolon4mg HJ 100s purchased in 5 transactions. The results of the Association Rule analysis taking into account the Support and Confidence values showed that the FP-Growth algorithm is better than the Apriori algorithm in determining drug sales transaction patterns.

**Keywords:** Pharmacies, Association Rule, FP-Growth Algorithm, Apriori Algorithm

**Analysis of Drug Related Problems (DRPs) in Patient with Chronic Kidney Disease Stage V, Anemia and Cholelithiasis with Hemodialysis Therapy**

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**Abstract**

The use of medical therapy in patient with chronic kidney disease stage v, anemia and cholelithiasis needs special attention. The case report aims to discuss the treatment therapy for chronic kidney disease stage v, anemia and cholelithiasis that the patient is currently suffering from. Data collection method is retrospective. The data obtained was then analyzed for Drug Related Problems using a literature review. Based on the results of this analysis, the treatment given to the patient was deemed appropriate. The results of the analysis show that it is necessary to periodically monitor gallstone size, kidney function (serum creatinine and urea) and hemoglobin.

**Keywords:** Drug Related Problems, Chronic Kidney Disease, Anemia, Cholelithiasis

## Case Study of Hypertension with a History of Stroke and Dyslipidemia

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### Abstract

Hypertension is a disease with a blood pressure of  $\geq 140/90$  mmHg. One complication of hypertension can affect to brain organ (Stroke). WHO describes stroke as a neurological dysfunction in the brain, spinal cord, and retina partially or completely persisting for  $\geq 24$  hours. Hypertension triggers atherosclerosis which encourages (LDL) cholesterol to easily enter the intima lumen of blood vessels and reduce the elasticity of blood vessels resulting in dyslipidemia. This study aims to determine medication in hypertensive patients with a history of stroke and dyslipidemia. This research uses descriptive qualitative with a case study approach, data collection by interview, and analysis by making a narrative in SOAP. Based on the results of SOAP analysis, patient Mrs. N with blood pressure of 250/110 mmHg, total cholesterol of 250 mg/dL, and ischemic stroke. Treatments were given Candesartan Cilexetil 16 mg 1x1, Amlodipine Besylate 10 mg 1x1, and holistic therapy (cupping and leeches). The patient experienced clinical improvement with blood pressure 170/90 mmHg, cholesterol decreased, and stroke improved. Study results showed that the use of Candesartan Cilexetil and Amlodipine Besylate was continued to control the patient's blood pressure. Another treatment suggested was to use herbal phytopharmaca Tensigard® (cat's whisker plant and celery).

**Keywords:** SOAP Analysis, Dyslipidemia, Hypertension, Stroke

OP17

## **Rationalization of Treatment For Patients With Gastrointestinal Disorders**

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### **Abstract**

Pharmaceutical care regarding the use of medication for digestive disorders is very necessary to assist patients in using the appropriate medication. The amount of information on social media and the habit of self-medication with certain drugs can be a problem if the drug chosen is not suitable for the patient's condition. The aim of this case report is to provide information on 3 cases of digestive disorders with different symptoms and different drug choices. The method used is prospective data collection and then analyzed descriptively. The results of the analysis of the three cases presented show the accuracy of drug selection according to the complaints experienced by the patient. Complete drug information can help rationalize patient self-medication. The end result is an efficient increase in the speed of patient recovery.

**Keywords:** Pharmaceutical care, self-medication, digestion

**Case Report: Potential Interactions And Side Effects Of Simvastatin, Amlodipine, Captopril, And Wiros Drugs In Outpatients**

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**Abstract**

Background: Patients received treatment in the form of simvastatin 10 mg for cholesterol, amlodipine 10 mg and captopril 12,5 mg for hypertension, and Wiros 20 mg for knee pain. From the drugs the patient receives, we will examine the potential interactions and side effects of each drug. Case summary: A 55 year old female patient undergoing treatment received Simvastatin 10 mg, Amlodipine 10 mg, Captopril 12,5 mg, and Wiros 20 mg. Patients experience complaints of side effects from the drugs they consume, such as increased appetite and frequent drowsiness. Research method: using SOAP analysis. Conclusion: Based on the analysis of cases, it can be concluded that the combination of the CCB drug class with ACEI provides a synergistic effect on antihypertension, giving rise to interactions between amlodipine and simvastatin. Where amlodipine can increase simvastatin levels by increasing the risk of myopathy/rhabdomyolysis, it is recommended to take the drug at a minimum interval of 30 - 1 hour after eating.

**Keywords:** Simvastatin, Amlodipine, Captopril, Wiros

OP19

## **Effect of Triethanolamine Concentration on Physical Stability of Vanishing Cream Standard Formula**

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### **Abstract**

Vanishing cream is a type of cream that is dispersed in water with the help of an emulsifier. Triethanolamine (TEA) is an emulsifier which functions as an emulsifier and alkalizing agent which can form an emulsion that is homogeneous and stable. This research aims to determine cream preparations that meet the requirements for physical properties and stability with variations in Triethanolamine concentration. The cream preparation was made by making five variations of Triethanolamine concentration, namely 0.375% (FI), 0.75% (FII), 1.5% (FIII), 3% (FIV) and 6% (FV), then physical evaluation was conducted including organoleptic, pH, viscosity, spreadability, stickiness, homogeneity, and cream type. The results show that the higher TEA concentration will increase the pH, stickiness, and viscosity, also reduce the spreadability. Furthermore, the five formulas were tested for stability using an accelerated stability test such as storage test at 4°C, 25°C, and 40°C; temperature cycling using 6 cycles; and mechanical centrifugation. The results of the stability test showed that variations in TEA had no effect on the physical stability of cream. Eventhough there are fluctuations in the values of pH, viscosity, and spreadability result, they are still within the standard range and there is no phase split so that the five formulas are declared stable.

**Keywords:** Vanishing Cream, Triethanolamine, Accelerated Stability Test

OP20

**Review: Application of the Crispr/Cas9 System and  $\lambda$ -Red Homologue Recombination in *Escherichia Coli* Bacteria**

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**Abstract**

Prokaryotic organisms such as bacteria utilize an RNA-mediated adaptive immune system in the form of CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats)/Cas to protect themselves from attacks by plasmids and viruses. However, currently, the CRISPR/Cas system is widely used as a revolutionary technology that allows precise and efficient modification of genetic material. Three types of CRISPR/Cas systems have been discovered in bacteria. Type I and type III CRISPR/Cas systems involve multi-protein effector complexes for recognition of target DNA as well as endonucleases Cas3 (type I) and Cas10 (type III) for cutting target DNA. Type II only involves one effector protein in the form of Cas9 endonuclease, RNA which will form a complex with Cas9, namely crRNA (CRISPR RNA) and tracrRNA (trans-activating crRNA). The CRISPR/Cas9 system has been used in many organisms to mediate genome mutagenesis and has a high level of precision and efficiency, including the bacterium *Escherichia coli*. This review provides an overview of CRISPR-Cas9 technology and its application in editing the genome of *Escherichia coli* bacteria, starting from an explanation of the basic principles and components of CRISPR-Cas9, sgRNA as a guide for the Cas9 protein to the target DNA sequence,  $\lambda$ -Red homologous recombination, and its application in the health sector using *Escherichia coli*.

**Keywords:** CRISPR-Cas9, *Escherichia coli*

OP21

**Case Report: Insulin Therapy in Diabetes Mellitus with Chronic Kidney Disease Stage 5 and Anemia**

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**Abstract**

Diabetic Nephropathy (DN) is a complication that occurs in as many as 40% of patients with diabetes mellitus and is the main cause of kidney disease in patients characterized by the presence of microalbuminuria accompanied by increased blood pressure, resulting in decreased glomerular filtration and ultimately leading to end-stage renal failure. Pharmaceutical care in the therapy of CKD patients is needed to obtain appropriate therapy. This study is a case report that aims to examine the use of appropriate therapy in patients with diabetes mellitus with CKD stage 5 and anemia. From the results of the analysis in this case, there were changes in insulin therapy regimens and doses given to patients. From the results of the self-examination of sugar levels carried out by patients, there was no decrease in fasting blood sugar levels, so it is necessary to adjust the selection of the insulin therapy regimen and the appropriate dose for the patient.

**Keywords:** DM, CKD, Diabetic nephropathy, Insulin

**Benefits of Indonesian Saintific Jamu in the Treatment of Various Diseases: a Review**

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**Abstract**

One of Indonesia's treasures is herbal medicine. Jamu comes from Sanskrit, namely from the word djamoe which stands for djampi and oesodo. Djampi means healing with medicinal herbs or prayers and mantra while oesodo means health, so it is concluded that medicinal herbs are beneficial for health. Jamu is an ancestral heritage of the Indonesian Nation that has been passed down from generation to generation has high advantages because it comes from cultural diversity, local wisdom, and high biodiversity. Empirical evidence shows that herbal medicine can maintain and improve public health. The government, through the Ministry of Health, issued a regulation on the Saintification of Herbal Medicine to provide scientific evidence regarding the efficacy and safety of herbal medicine through health service-based research. Scientific herbs approved by the National Herbal Saintification Commission are sourced from research that has been conducted by the Center for Research and Development of Medicinal Plants and Traditional Medicines (B2P2TOOT). Currently there are 12 scientific herbal concoctions, but in the future it will definitely increase. This literature review uses a narrative method of grouping similar research results according to the established journal criteria. Based on the results of the literature review that has been carried out, it can be concluded that 12 scientific herbal concoctions are safe and have health benefits.

**Keywords:** traditional medicine, jamu, djampi dan oesodo, scientific herbal concoctions

OP25

**Uji Efek Ekstrak Daun Pepaya Terhadap Gambaran Histopatologi Pankreas Tikus Putih Jantan yang Diinduksi Streptozotocin**

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**Abstract**

The purposes of this study is to determines the effective dose for the histopathological description of the pancreas and the secondary metabolites in the ethanolic extract of papaya leave (*Carica papaya* L). This study is a laboratory experiment with 30 rats as test animals. The tes animal were divided into six treatments group of five rats each. Na-CMC suspension was give to groups 2 (the negative control), glibenclamide was give to group 3 (the positive control), and 100, 200, and 300mg/kgBW of etanol extract of papaya leave (*Carica papaya* L) were given to groups 4, 5, and 6. The ethanol extract of papaya leave contained secondary metabolites, including alkaloids, flavonoids, saponins, and tannins, according to the findings. Papaya leaf ethanol remove meaningfully affects the histopathological image of the pancreas, papaya leaf ethanol separate at a portion of 300mg/kgBW is a portion that affects the histopathological image of the pancreas with a typical score of 1.2.

**Keywords:** Ethanol Extract of Papaya Leaves, Histopathological Pancreas, Streptozotocin

**Pengaruh Ekstrak Gedi Putih Terhadap Penurunan Kadar Kolesterol Pada Tikus Putih Jantan Hiperkolesterolemia-Diabetes**

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**Abstract**

Diabetes Mellitus with complications of hypercholesterolemia is one of the most common diseases in the world. Rising blood glucose levels are associated with abnormalities of carbohydrate, fat, and protein metabolism. The aim of this research is to find out whether the fetal metabolite content of leaf extract of white gedi leaves, at dose how much extract affects to total cholesterol level of the male white rat, and whether white gedi leaves extract has an effect on cholesterol level of the male white rat. This study used a Randomized Block Design with 6 treatment groups consisting of 5 animals tested. Group I normal control (0.5% Na CMC suspension). Group II negative control (streptozotocin 30 mg/kg BW). Group III positive control (simvastatin suspension). Group IV, V, and V were given White Gedi leaf extract 150; 300; and 450 mg/kg BW, respectively. Treatment was given for 49 days and total cholesterol measurements were measured on days 0, 35, 42, and 49. The results obtained showed a decreased effect of total cholesterol in all extract groups and the most effective was the group of White Gedi leaf extract 150 mg /Kg BW.

**Keywords:** white gedi Leaf, cholesterol.

OP28

**Uji Sitotoksisitas In Vitro  $\alpha$ - Mangostin Terhadap Lini Sel Kanker Prostat DU145 dengan Metode WST-8**

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**Abstract**

Alpha mangostin is empirically believed to be used for cancer treatment. Alpha mangostin can suppress carcinogenesis at all stages (cell division, cell proliferation, apoptosis, inflammation and metastasis). This study aims to evaluate the activity of  $\alpha$ -mangostin against the DU145 prostate cancer cell line, and compare the %survival rate between cisplatin and  $\alpha$ -mangostin. The method used is cytotoxicity testing *in vitro* with the WST-8 method. The research results showed that  $\alpha$ -mangostin had an IC50 value of 16.89 ppm, in the active category, the IC50 of cisplatin was 4.69 in the active category. Then statistical analysis was carried out using GraphPad Prism versi 9.0.0 The results obtained were no significant differences between %survival rate cisplatin and  $\alpha$ -mangostin at a concentration of 12.5 ppm. The conclusion of this study is that  $\alpha$ -mangostin has anticancer activity against the DU145 prostate cancer cell line.

**Keyword:**  $\alpha$ - mangostin, Cisplatin, Prostat Cancer

**Pengaruh Ekstrak Daun Gedi Merah (*Abelmoschus manihot*) (L.) Medik) Kadar Kolesterol Total Putih Jantan Hiperkolesterolemia Diabetes**

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**ABSTRACT**

Gedi Red Leaf is a plants that contains chemicals such as alkaloids, flavonoids, saponins, tannins and polyphenols. This study aims to prove the ability of ethanol extract of red gedi leaf (*Abelmoschus manihot* (L.) Medik) in lowering total cholesterol levels of the male white rat model of diabetes and hypercholesterolemia, dosing leaf extract of red gedi mostly effective in lowering total cholesterol levels in white rats male. Gedi red leaf extract made by maceration with 96%. The design of the study was a randomized block design (RBD). Data were analyzed using statistical tests one way (ANOVA) at the level of 95% used 42 male rats which were divided into six treatment groups, each treatment consisting of 7 animals. Group I as a negative control by suspense Na CMC 0.5%, group II as a control pain by Na-CMC suspension 0.5%, Group III as a positif control by the suspension of simvastatin 0.9 mg / kg BW, groups IV, V and VI were given ethanol extract of leaf of red gedi, each with a dose of 150 mg/ kg BW, 300 mg/ kg BW and 450 mg/ kg BW. All treatment groups were given high-cholesterol feed except fructose synthetic and negative groups. Based on Duncan test it shows that the dose of ethanol extract of leaf of red gedi effective is 450 mg / kg BW.

**Keywords:** Leaf Gedi Red (*Abelmoschus manihot* (L.) Medik), total cholesterol levels, fructose, high-cholesterol feed.

**Antioxidants Activity Test of Nanoparticles Extract of Dayak Onion  
(*Eleutherine americana* Merr.) Ethanol Extract by DPPH Method**

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**Abstract**

Onion Dayak (*Eleutherine americana* (Aubl.) Merr.) is known to contain chemical compounds belonging to the flavonoid group which can function as antioxidants. Antioxidants are compounds that can counteract free radicals and prevent various degenerative diseases. However, antioxidants have some disadvantages such as being less stable to light, pH, and oxygen, and can react with other compounds. The nanoencapsulation technique with the ionic gelation method is used as an alternative. The purpose of this study was to determine the characterization of nanoparticles of Dayak onion extract and the effect of the nanoparticle ionic gelation method on antioxidant activity using the dpph method. This research method is a laboratory experiment. The results of the research on the characteristics of the Dayak onion extract nanoparticles are 381.0 nm in size with a polydispersion index of 0.491 and a zeta potential of 37.3 mV. The antioxidant activity of the Dayak onion extract nanoparticles was 111.58 µg/mL. Storage of Dayak onion extract nanoparticles was stable for 7 days, whereas on the 14th day agglomeration occurred. Comparison of antioxidant activity between the positive control of Dayak onion extract and Dayak onion extract nanoparticles respectively 33.16 µg/mL and 111.58 µg/mL.

**Keywords:** dayak onion, nanoparticles, antioxidants, ionic gelation

OP31

**Bioaktivitas Kratom (in silico) pada Penghambatan Glial Activation dalam Potensinya sebagai Narkotik non-toleransi dan non-dependansi**

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**ABSTRAK**

Kratom (*Mitragyna speciosa* Korth.) merupakan salah satu tumbuhan yang berasal dari Asia Tenggara seperti Indonesia, Malaysia, dan Thailand. Populasi terbesar tanaman kratom berada di Indonesia, tepatnya di Pulau Kalimantan, Sumatera, dan Papua. Daun kratom memiliki banyak manfaat sebagai obat herbal seperti obat demam, diare, dan antinosiseptif. Kandungan utama dalam daun kratom yang dilaporkan menunjukkan aktivitas antinosiseptif adalah alkaloid mitraginin. Hingga saat ini, belum ada laporan ilmiah mengenai bioaktivitas senyawa pada kratom yang berpotensi sebagai narkotik non-toleransi dan non-dependansi dalam menghambat *glial activation*. Berdasarkan hal tersebut, penelitian ini bertujuan untuk mengetahui potensi senyawa aktif pada kratom dalam menghambat protein reseptor TLR-4, cyclooxygenase-1 (COX-1) dan cyclooxygenase-2 (COX-2) secara *in silico*. Metode penelitian yang dilakukan adalah molecular docking menggunakan Maestro Schrodinger dengan menambatkan senyawa aktif kratom pada protein target COX-1 (kode PDB: 1EQG), COX-2 (kode PDB: 5IKT) dan TLR-4 (kode PDB: 4G8A). Hasil docking berupa energi ikatan bebas, konstanta inhibisi dan interaksi asam amino yang terlibat dengan nilai validasi docking < 2 RMSD.

**Kata Kunci:** Kratom, *Mitragyna speciosa*, TLR4, *glial activation*, toleransi, dependansi

OP32

**Efek Ekstrak Etanol Daun Pepaya Terhadap Histopatologi Ginjal Tikus Putih yang Diinduksi Streptozotocin**

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**Abstract**

Kidneys are organs that have the function of filtering blood by removing organic wastes such as urea. Increased organic waste can cause kidney damage. This study aims to determine the content of alkaloid secondary metabolites, flavonoids, saponins, and tannins in the ethanol extract of papaya leaves, and to determine the effect and effective dose of the extract on the prevention of kidney tubular cells in rats induced by streptozotocin. Rats were divided into 6 groups consisting of normal control, negative control, positive control, extract treatment group at doses of 100, 200, 300 mg/kg BW. Research for 28 days. This study observed the changes that occur in the kidney tubule cells of male white rats induced by streptozotocin in the form of damage levels with values calculated as a percentage (%) in each part of the tubule that was injured or damaged. The results showed that papaya leaf extract positively contained secondary metabolites of alkaloids, flavonoids, saponins and tannins. Giving papaya leaf ethanol extract at a dose of 300 mg/kg BW can have an effect on preventing kidney tubular cells in STZ-induced rats, with an average damage value of 0.4 out of a maximum of 4.

**Keywords:** *Carica papaya* L, Histopathology renal, renal tubular injury.

OP33

**Anti-Inflammatory Activity of Dysmenorrhea Herbal Medicine (Turmeric, Red Ginger, Sambiloto, Moringa, Dark Chocolate) Through Inhibition of the Cyclooxygenase Enzyme In Vitro**

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**ABSTRACT**

Dysmenorrhea is a feeling of cramping or pain that occurs during menstruation. Pharmacologically, primary dysmenorrhea can be treated by taking non-steroidal anti-inflammatory drugs (NSAIDs) or the analgesic paracetamol. Although effective in treating dysmenorrhea, long-term use of NSAIDs can cause side effects on the gastrointestinal system and bleeding. The aim of this study was to determine the anti-inflammatory activity of dysmenorrhea herbal medicine, namely extracts from bitter, turmeric, moringa, red ginger and dark chocolate in vitro against the COX enzyme which was determined using the TMPD (N,N,N',N'-tetramethyl) method. -p-phenylenediamine) spectrophotometrically. Based on the test results, it is known that bitter extract has inhibitory activity on both the COX-1 enzyme and the COX-2 enzyme with an inhibition percentage of 4.5% (1000 ppm) and 74.29% (1000 ppm), respectively. Meanwhile, moringa, red ginger, turmeric and dark chocolate extracts only had inhibitory activity on the COX-2 enzyme, respectively 71.02%, 67.14%, 65.78% and 68.99% at a concentration of 1000 ppm.

**Keywords:** Dysmnorrhea, COX, bitter, turmeric, moringa, red ginger, and dark chocolate

OP34

## Uji Aktivitas Antioksidan Formula Minyak Herbal dengan Metode 1,1-Diphenyl-2-picrylhidrazil (DPPH)

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### Abstract

This study aims to determine the physical stability and the activity of antioxidant of Pelita Mas herbal oil formula using the 1,1-diphenyl-2-picrylhidrazil (DPPH) method. This research is a laboratory experimental design to find out the value of antioxidant activity using the 1,1-Diphenyl-2-picrylhidrazil (DPPH) method and to determine the stability of the Pelita Mas herbal oil formula. Data analysis uses One Way Anova in the SPSS program. The results show that the stability of herbal oil formula such as organoleptic, viscosity, clarity and pH level met the quality requirements of oil preparations. The testing results of the antioxidant activity of oil formulas and quercetin obtained IC<sub>50</sub> values of 101.382 ppm and 4.623 ppm where the herbal oil formula of Pelita Mas is classified as moderate antioxidants and quercetin classified as strong antioxidants. The results of the statistical analysis test are the normality test and the homogeneity test state that the data are normally distributed and homogeneous. One Way Anova test results obtained sig. 0.000 (<0.05), this shows a significant difference between herbal oil formula and quercetin.

**Keywords:** Herbal oil formula, antioxidants, DPPH, quercetin

**OP35**

**Uji Efek Ekstrak Etanol Daun Miana Terhadap Gambaran Histopatologi Ginjal  
Tikus Putih Jantan Diabetes**

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**Abstrak**

Penelitian ini bertujuan untuk mengetahui dosis efektif konsentrat etanol daun miana dalam regenerasi sel ginjal tikus putih jantan dalam jumlah metabolit sekunder dalam ekstrak etanol daun miana. Tikus dalam penelitian ini berjumlah 30 ekor yang dibagi menjadi enam kelompok perlakuan masing-masing lima ekor hewan uji: kelompok normal, kontrol negatif, dan kontrol positif pada dosis 150mg/kgBB, 200mg/kgBB, dan 250mg/kgBB. Menggunakan mikroskop Olympus CX21, pewarnaan HE menunjukkan tingkat kerusakan histologis tubulus ginjal Uji Kruskal-Wallis di gunakan untuk menganalisis skor tingkat kerusakan tubulus ginjal, dan uji Mann-Whitney di gunakan untuk membandingkan pengobatan. Konsentrat etanol daun miana mengandung metabolits sekunders alkaloids, flavonoids, saponins, dan tanins, seperti yang ditunjukkan oleh temuan; Perbaikan sel ginjal dipengaruhi oleh konsentrat etanol daun miana; Dengan nilai kerusakan rata-rata 0,4, konsentrat etanol daun miana dengan dosis 250mg/kgBB efektif dalam memperbaiki sel ginjal.

**Kata kunci :** Daun Miana, Histopatologi Ginjal, Tikus Putih Jantan.

OPP1

**Anti-Inflammatory Activity Test Of Essential Oil Of Lintut Leaves (*Strobilanthes kalimantanensis*) In Male Mice (*Mus musculus*) Induced By Croton Oil**

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**Abstract**

Inflammation is a natural response of body cause by strange substances that can damage the body cells and tissues. Lintut (*Strobilanthes kalimantanensis*) is an endemic plant from West Kutai which is used as a respiratory lozenges. Lintut (*Strobilanthes kalimantanensis*) leaves have a distinctive aroma and contain alkaloids, terpenoids and phenols. This research aims to determine its anti-inflammatory activity, the best dose, and effectiveness as an anti-inflammatory. This research uses the croton oil induction method which is applied topically to the ears of mice. Mices are grouped into 5 groups, concentrations of 5%, 10%, 15%, negative control (acetone), and positive control (1% diclofenac sodium cream). The research results obtained from this research are the results of weighing the ear, macroscopic images and microscopic images. The results of the percent edema obtained showed that only at a concentration of 10% the essential oil of lintut leaves (*Strobilanthes kalimantanensis*) had anti-inflammatory activity, namely with a percent edema value of 26.48%. This concentration was then compared with 1% diclofenac sodium cream. The statistic results show a significant difference, this shows that the 10% concentration has good effectiveness as an anti-inflammatory.

**Keywords:** Lintut Leaves (*Strobilanthes kalimantanensis*); Antiinflammatory.

**OPP2**

**Utilization of Ambon Banana Juice (*Musa paradisiaca* L.) Combination of Soy Milk and Honey as an Alternative to Increase Hemoglobin Levels for Adolescent Girls**

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**Abstract**

Anemia is a health problem in the world, especially developing countries. Anemia occurs if hemoglobin levels are insufficient to meet the body's needs for a long time. One group at risk of experiencing anemia is teenage girls. Ambon bananas, soy milk and honey are natural ingredients that contain iron, vitamin C and zinc which can help increase hemoglobin levels. The aim of this research was to determine the effect of giving Ambon banana juice in combination with soy milk and honey on increasing hemoglobin levels in teenage girls at the Petung Community Health Center. The research method used was quasi experimental with purposive sampling and obtained 24 respondents. Data analysis used paired t-test and independent t-test. The average increase in hemoglobin levels in the Ambon banana fruit intervention was 1.49 g/dL and in the Ambon banana juice intervention combined with soy milk and honey was 2.21 g/dL. The results of the independent t-test show a value of  $p=0.002 < \alpha (0.05)$ , which means there is a difference in the increase in hemoglobin levels between the two interventions. Based on the research results, it can be concluded that Ambon banana juice combination with soy milk and honey, is better at increasing hemoglobin levels.

**Keywords:** Anemia, Ambon Banana, Soy Milk, Honey

## OPP3

### Antioxidant Activity Test of Extract of Banitan Bark (*Monocarpia kalimantanensis*)

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#### Abstract

Banitan (*Monocarpia kalimantanensis*) is a plant that grows in the tropical areas of the Samboja region, East Kalimantan. This plant belongs to the Annonaceae family with the genus *Monocarpia*. This study aims to determine secondary metabolites and antioxidant activity in extracts and bark fractions of banitan (*Monocarpia kalimantanensis*). The results of the data obtained from the extract and fraction of banitan bark from secondary metabolite identification were that the ethanol extract, *n*-hexane fraction, ethyl acetate fraction, and *n*-butanol fraction positively contained secondary metabolites of alkaloids, flavonoids, saponins, terpenoids, tannins, and phenols. The results of research on antioxidant activity showed that the IC<sub>50</sub> value of the extract ethanol was 128.6902 ppm in the medium category, the *n*-hexane fraction had no activity at 94421.133 ppm, the ethyl acetate fraction was 270.4772 ppm in the very weak category and the *n*-butanol fraction was 123.8303 ppm in the medium category.

**Keywords:** antioxidant, banitan bark

**OPP4**

**Formulation of Clay Mask Form Etanol Extract of Kokang Leaves (*Lepisanthes amoena* (Hassk)) Leenh**

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**Abstract**

*Lepisanthes amoena* (Hassk) Leenh kokang leaves typical Kalimantan plant which is widely used traditional cosmetic among Dayak people. Clay masks beauty product in the form paste preparation with a wash-off type facial mask that uses clay base. This research was carried to making clay mask formulation from the ethanol extract of *Lepisanthes amoena* (Hassk) Leenh leaves and knowing the results physical evaluation clay mask preparation ethanol extract of *Lepisanthes amoena* (Hassk) Leenh leaves. Ethanol extract of kokang leaves meseration using 96% ethanol solvent. Clay mask preparations made with concentrations extract 1%, 5% and 10%. Physical evaluations carried organoleptics, homogeneity, pH, spreadability, dry time and viscosity. The results obtained from organoleptic test showed the higher concentration extract clay mask preparation, the more intense color and sharper the aroma, the homogeneity test preparation showed homogeneous composition, the resulting pH test 5.7-6.4. Test drying time 18.05-18.2 minutes. The spreadability test 5.1-5.3 cm and the viscosity of the preparation 11-13 Pa.s. Results of the research has been carried out, it was obtained the clay mask preparation formula ethanol extract of kokang leaves meets good physical characteristics and it can be concluded the ethanol extract of kokang leaves can be formulated as a clay mask.

**Keywords:** *Lepisanthes amoena* (Hassk) Leenh, Clay mask

OPP5

**Pigmen Stability Test of Kiacret Flower Extract (*Spathodea campanulata* P. Beauv) as Alternative Sources of Pharmaceutical Excipients**

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**Abstract**

Kiacret (*Spathodea campanulata* P. Beauv.) is one of the tropical plants found in Indonesia. The part of kiacret flower contains an anthocyanin pigment. Therefore, by using kiacret flower as natural color pigment can increase use values for kiacret flower. The purpose of study to see differences in yields, total anthocyanin levels, tannins levels, and pigment stability of the 70% and 96% ethanol extract of the kiacret flowers consist the effect of pH (3–6), temperature (40°C–80°C), and storage time for 5 days. The result of the 70% ethanol extract kiacret flowers data obtained were yield of 42,02%, anthocyanin level of 8,908 mg/L, and tannin level of 0,46%. The result of the 96% ethanol extract kiacret flowers data obtained were yield of 35,72%, anthocyanin level of 10,949 mg/L, and tannin level of 0,17%. The extract of kiacret flower stable at pH 3–4, temperature 40°C, and storage for one day. The results of this study showed that the extract of kiacret flowers with 96% ethanol solvent had the best stability that can be seen at higher absorbance per treatment compared to the 70% ethanol solvent.

**Keyword:** *Spathodea campanulata* P. Beauv., kiacret flower, anthocyanin, tannin, pigment stability

**Eyebrow Dye Formula From Squid Ink (*Loligo sp.*)**

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**Abstract**

Eyebrow dye is a decorative beauty product for the face that is specifically used on eyebrow hair to shape and define the eyebrows. Squid ink (*Loligo sp.*) is a dark colored ink found in the ink sacs of squid which has benefits, can be used as a natural black pigment and has benefits as an antioxidant, making it suitable for use in cosmetic preparations. The aim of this research is to find out the formula for eyebrow dye from squid ink, to find out the physical properties of eyebrow dye from squid ink and to find out the best formula for eyebrow dye from squid ink. This method uses squid ink powder which is varied in F1, F2 and F3 by 1%, 1.5% and 2%, each formula adds titanium dioxide, talc, kaolin, microcrystalline wax, beeswax, hydrogenated castor oil, methyl paraben, petrolatum, stearic acid, lanolin oil, liquid paraffin and distilled water. Then evaluated for 28 days at room temperature (25-30°C) with organoleptic tests, pH tests, homogeneity tests, spreadability tests, drying time tests, irritation tests and hedonic tests. The research results show that squid ink is effective as a natural black dye in cosmetics and is safe on skin.

**Keywords:** Formula, Eyebrow Dye, Squid Ink

OPP7

**Formula Optimization Of Anti-Aging Cream From Dayak Onion Bulb Extract  
(*Eleutherine bulbosa* [Mill] Urb.) With Simplex Lattice Design (SLD) Method**

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**Abstract**

Dayak onion bulbs (*Eleutherine bulbosa* [Mill.] Urb.) containing alkaloid, flavonoid, saponin, tannin, and quinone compounds. The main content is possessed by dayak onion bulbs is flavonoid compounds and followed by naphthakuinon compounds and their derivatives. Dayak onion bulbs are known to have high antioxidant activity which has the ability to neutralize free radicals in the human body and prevent cell damage and prevent premature aging. Phenolic compounds, especially the flavonoid group, are natural sunscreens so that dayak onion bulbs have good sunscreen activity. The purpose of this study was to determine the physical evaluation, physical stability, and SPF value of anti-aging cream preparations from dayak onion bulb extract using NADES choline chloride-sorbitol solvent, distilled water, and 96% ethanol. Anti-aging cream that showed the best physical evaluation was obtained from 10% concentration of NADES extract with purplish pink color, aromatic, homogeneous, pH 5.91, viscosity 210 dPas, and spreadability 5.64 and SPF value 30.23. The physical stability test was carried out using the freeze-thaw cycling test method for 3 cycles and showed the results that no significant changes occurred in the organoleptical test, homogeneity test, pH test, viscosity test, and spreadability test so that the cream of NADES extract of dayak onion bulbs with a concentration of 10% fulfilled the requirements of physical evaluation and physical stability of the cream.

**Keywords:** Anti-aging cream, Simplex Lattice Design (SLD)

**OPP8**

**Study Ethnopharmaceutical Of Medicinal Plants In Duampanua District Pinrang  
Regency South Sulawesi**

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**Abstract**

Medicinal plants have long been used by Indonesian people as an alternative treatment for disease. Duampanua is one of the areas in Pinrang Regency, South Sulawesi Province which has abundant natural resources with the majority of the population being the Bugis tribe who use local plants as traditional medicine to treat various diseases. This research was carried out with the aim of finding out the types of plants used by the community in Duampanua District, the manufacturing process and their use to treat diseases. This research was carried out by conducting an ethnopharmaceutical plant survey through community leaders and people who have knowledge about medicinal plants using a purposive sampling research method. The results of the research show that people in Duampanua District, Pinrang Regency, South Sulawesi Province still maintain ethnopharmaceutical traditions and found as many as 35 families and 61 species which are used singly or made into concoctions by boiling and squeezing during the manufacturing process as well. such as drinking, eating directly, and applying to wounds to treat diseases.

**Keywords:** Ethnopharmacy; Duampanua district; Medicinal plants

OPP9

## Molecular Docking Study of Chloroflavanone Derived Compounds as Anticancer in the Aromatase Enzyme

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### Abstract

Flavanones are polyphenolics with the basic structure of 2-phenyl-chroman-4-one, which has anti-breast cancer activity. Flavanones can competitively inhibit the activity of the aromatase, which competes with androstenedione (ASD) at the active site. This research, ten chloroflavanone derivative compounds were designed by substituting the chlorine group in the C6 position of the chroman ring combined with other groups such as chlorine, hydroxy, and methoxy in the B ring of the flavanone. The aim of designing chloroflavanone derivative compound is to predict its anti-breast cancer activity by reviewing its bioavailability using Lipinski's rule of five and its anti-cancer activity by docking scores. The first result is the physicochemical properties of the drug which are in accordance with Lipinski's rule of five, where the compounds have good drug bioavailability. The second result is docking scores which represents the Gibbs free energy and interactions between the enzyme-ligand which can be viewed from the visualization of the ligand pose obtained. From the connection of flavanone derivative compounds, there are two compounds that have active anticancer activity, with docking scores above that of the positive control (exemestane  $\Delta G = -6.6$ ). These compounds are 6-chloro-2'-hydroxy flavanone (S2)  $\Delta G = -7.5$  and 6-chloro-3',4'-dihydroxy flavanone (S3)  $\Delta G = -6.9$ .

**Keywords :** Aromatase Inhibitor, Chloroflavanone, Breast Cancer

**Potential Toxicity Of Banitan Plant Bark (*Monocarpia kalimantanensis*)**

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**Abstract**

The banitan plant (*Monocarpia kalimantanensis*) is a plant originating from Kalimantan. This plant, through the monocarpia genus and *Annonaceae* family approach, is known to contain secondary metabolites that have the potential for certain bioactivities. This study aims to determine the potential toxicity of 96% ethanol extract and n-hexane fraction, ethyl acetate fraction, n-butanol fraction of banitan stem bark against *Artemia salina* L. shrimp larvae with LC<sub>50</sub> values. In this research, with a series of concentrations of 12.5 ppm, 31.25 ppm, 125 ppm, 250 ppm and 500 ppm, 3 replications were made in vials. Data on shrimp larval mortality was determined using Reed and Muench analysis and Probit analysis. The research results showed that extracts and fractions using Reed and Muench analysis were 83,043 ppm, 241.48 ppm, 231.92 ppm and 403.30 ppm, while using Probit analysis the LC<sub>50</sub> values were 7,311 ppm, 126.18 ppm, 199,067 ppm and 884.15 ppm. The 96% ethanol extract and the n-hexane, ethyl acetate and n-butanol fractions have potential bioactive compounds that provide toxicity with LC<sub>50</sub> values <1000 ppm.

**Keywords:** *Monocarpia kalimantanensis*, Brine Shrimp Lethality Test (BSLT)

OPP11

**Antibacterial Activity Test From Stem Bark of Mangrove *Rhizophora apiculata* Against *Escherichia coli*, *Salmonella enterica*, and *Streptococcus mutans* Bacteria**

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**Abstract**

The *Rhizophora apiculata* mangrove is a tropical coastal plant that grows on muddy, smooth and waterlogged soil. Traditional medicine using this plant has been carried out by several tribes in Indonesia. This study aims to determine the antibacterial activity of extracts and fractions of *Rhizophora apiculata* mangrove stem bark against *Escherichia coli*, *Salmonella enterica*, and *Streptococcus mutans* bacteria. The research was carried out using 5 groups concentrations, namely 5%, 10%, 15%, 20% and 25% with distilled water as a negative control. The test results showed that the yield of methanol extract from *Rhizophora apiculata* mangrove stem bark was 28%, the total ash content was 9.10%, and the acid insoluble ash content was 0.30%. Antibacterial activity showed that the methanol extract and water fraction had moderate inhibitory activity, while the ethyl acetate fraction at concentrations of 15%, 20% and 25% had strong inhibitory activity.

**Keywords:** Antibacterial, Stem Bark, *Rhizophora apiculata*

## OPP12

### Antimicrobial Activity from Extract And Fraction of Banitan Stem Bark (*Monocarpia kalimantanensis*)

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#### Abstract

Banitan (*Monocarpia kalimantanensis*) is a plant that grows in the Samboja area, East Kalimantan. Antimicrobial activity extract and fractions of banitan stem barks against *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans* has never been done. This study aims to determine the yield and antimicrobial activity produced by banitan bark extract and fractions (n-hexane, ethyl acetate and n-butanol) against *Staphylococcus aureus*, *Escherichia coli*, and *Candida albicans*. Antimicrobial activity was assayed by agar well diffusion method using 5 concentration groups of the extract and fractions of banitan stem bark, namely 0,625%; 1,25%; 2,5%; 5%; and 10% with chloramphenicol and ketoconazole as positive control and DMSO 10% as negative control. The diameter inhibition zone value of ethanol extract, n-hexane, ethyl acetate and n-butanol fractions at the concentration 10% for *Staphylococcus aureus* were 13,63; 9,08; 21,18; 6,05 mm, *Escherichia coli* were 14,46; 9,93; 21,97; 6,90 mm and *Candida albicans* were 11,85; 18,09; 19,36; 13,17 mm. The ethyl acetate fraction showed the highest inhibitory activity at a concentration of 10%.

**Keywords:** *Monocarpia kalimantanensis*, antimicrobial

OPP13

**Characterization of Tea Bag from Bay Leaves (*Syzygium polyanthum* Wight.), Lemongrass (*Cymbopogon citratus*), and Ginger (*Zingiber officinale* Rosc.) Simplicia**

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**Abstract**

Characterization of simplicia is an effort to determine the quality of simplicia. Simplicia of bay leaves, lemongrass, and ginger can be utilized into tea bags. This study aims to evaluate the quality of bay leaf, lemongrass, and ginger tea bags based on SNI 4324:2014. Data on the moisture content of bay leaves are 7.29%, lemongrass 7.03%, and ginger 8%. Data on total ash content of bay leaves are 4.7%, lemongrass 6.2%, and ginger 7.78%. Data on water soluble ash content of bay leaves are 2.71%, lemongrass 5.61%, ginger 1.51%. Data on acid insoluble ash content of bay leaves were 0.34%, lemongrass 0.1%, and ginger 0.36%. The preparation of bay leaf, lemongrass, and ginger tea bags has a pH of 6.17. The moisture content, total ash, acid insoluble ash, and pH of the bay leaf, lemongrass, and ginger teabags met the SNI requirements. While the water soluble ash content does not meet the SNI requirements.

**Keywords:** Bay Leaves, Lemongrass, Ginger, Tea Bag

OPP14

**Potential Of Guava Leaf (*Psidium Guajava*) and Soursop Leaf (*Annona Muricata L.*)  
Combination Tea Bags as Antioxidants**

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**Abstract**

The antioxidant is a compound that can capture free radicals by inhibiting the oxidation reaction, which functions to provide endogenous protection. This study aims to determine the characteristics of a combination of guava leaf and soursop leaf tea bags and to identify the antioxidant activity in the combination of guava leaf and soursop leaf tea bags. The water content data for guava leaves is 7.9%, and for soursop leaves is 7.4%. The total ash content data for guava leaves is 5.86%, and for soursop leaves is 6.55%. The water-soluble ash content data is 2.5% for guava leaves and 2.4% for soursop leaves. The acid-insoluble ash content data is 0.28% for guava leaves and 0.31% for soursop leaves. The pH test data for the 1:1 tea infusion formula yielded a pH of 6.21, the 1:3 tea infusion formula yielded a pH of 6.55, and the 3:1 tea infusion formula yielded a pH of 6.25. The results of the antioxidant activity testing for the 1:1 tea bag combination showed an IC<sub>50</sub> value of 41,87 µg/mL, and for the 1:3 tea bag combination, an IC<sub>50</sub> value of 23,53 µg/mL was obtained. This indicates that the combination of guava leaf and soursop leaf tea bags has very strong antioxidant activity.

**Keywords:** Antioxidant, Guava Leaf, Soursop Leaf

OPP15

**The Specific and Non-Specific Parameter Determination on Herbal Teabag of White Turi Leaf (*Sesbania grandiflora* (L.) Pers.)**

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**Abstract**

Turi plant belongs to the Fabaceae family which is a legume plant. Turi generally contains glycosides, alkaloids, steroids, terpenoids, tannins and flavonoids. This study aims to determine the value of specific and non-specific parameters in white turi leaf herbal teabags. Determination of specific and non-specific parameters carried out refers to SNI 4324:2014. The determination results showed that white turi leaf herbal tea in formula 1, formula 2, and formula 3 had a clear to yellowish green color, had a distinctive tea aroma and had a distinctive tea taste. Specific gravity data on tea brew formula 1 is 0.975 g/ml; specific gravity on tea brew formula 2 is 0.985 g/ml; and specific gravity on tea brew formula 3 is 0.993 g/ml. Total ash content was 8%. Water soluble ash content 4.824. Acid insoluble ash content 0.524%. Ash alkalinity 0.1%. Water content 7%. The pH test data on tea brew formula 1 is 6.63; pH on tea brew formula 2 is 6.51; and pH on tea brew formula 3 is 6.53. The results of the specific and non-specific parameters in this study met the requirements except for the test results of water soluble ash content and ash alkalinity.

**Keywords:** White Turi Leaf, Specific Parameters, Non-Specific Parameters

**Anti-Inflammatory Activity Test of Ethanol Extract and Telang Leaf Water Extract (*Clitoria ternatea L.*) on Male White Rats (*Rattus norvegicus*) Induced by Carrageenan**

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**Abstract**

Telang leaves are one of the parts of the plant that has anti-inflammatory properties. The research was aimed at determining the secondary metabolite groups of ethanol extract and leaf water extract, identifying the anti-inflammatory activity of ethanol extracts and leaves extract in the legs of male white rats induced by the agent. The study used the paw edema method by measuring the inflammation volume, then counting the percentage of inflammations and percentages of inhibition. Data analyzed using SPSS One Way Anova and LSD tests. Phytochemical screening results of ethanol extract and pond leaf extract contain alkaloids, flavonoids, steroids and tannins, as well as saponins (obtained in the water extract). The anti-inflammatory effects that showed the greatest inhibition percentage were at the seventh hour for all trial groups, namely 42.49% for 400 mg/KgBB ethanol extract and 57.44% for 600 mg/kgBB, and 44.63% for 0.8% and 39.74% for 1.2% water extract. The analysis of the One Way Anova inflammation inhibition percentage test revealed significant data of 0.020 ( $p < 0,05$ ). The LSD inflammatory inhibitions percentages test showed that the 600 mg/KgBB ethanol extract group compared to the positive control group ( $p > 0,05$ ) there was no significant difference with a significant value of 0.690 so that both groups provided comparable anti-inflammatory effects.

**Keywords:** Telang leaf, Anti-inflammatory, Etanol Extract, Water Extract

OPP17

**Formulation of Insulin Leaves Ethanol Extract (*Smallanthus sonchifolius*) as Antiseptic Liquid Soap**

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**Abstract**

Insulin leaves (*Smallanthus sonchifolius*) contain compounds that have antibacterial activity that can be formulated into liquid soap preparations. 10% ethanol leaf extract Insulin extracted by maseration method using 96% ethanol solvent is formulated on an optimal basis with a 5% *Cocamidopropyl betaine* concentration. Liquid soap ethanol leaf extract Insulin formulation meets SNI 06- 4083-1996 requirements for 28 days storage. However, changes in color and smell began on the 14th day. Liquid soap ethanol leaf extract Insulin (*Smallanthus sonchifolius*) has a very powerful killing power against bacteria *Staphylococcus aureus* (31.20 mm) and *Pseudomonas aeruginosa* (31,83 mm).

**Keywords:** *Staphylococcus aureus*, *Pseudomonas aeruginosa*, Insulin leaf, liquid soap, antibacterial

OPP18

**Phytochemical Screening and Sunscreen Activity Test of Rambutan (*Nephelium lappaceum* L.) Leaf Ethanol Extract**

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**Abstract**

Rambutan (*Nephelium lappaceum* L.) is a tropical plant that is widely found in Indonesia and can be used as sunscreen to protect the skin from UV radiation. The purpose of this study was to determine the content of secondary metabolite compounds and the sunscreen activity of rambutan leaf extract. Phytochemical screening results show that rambutan leaf extract contains flavonoids tannins and saponins, Rambutan leaf extract 100 ppm has sunscreen activity in the sunblock category with a %Te value of 0,58 and %Tp 31,28; and an SPF value of 23,09, including the ultra protection category.

**Keywords:** Rambutan leaf, Phytochemical, Sunscreen

OPP19

**Phytochemical Screening and Toxicity Testing of Ethanol Extract from Mangrove Fruit (*Sonneratia ovata*) Using the Brine Shrimp Lethality Test (BSLT) Method**

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**Abstract**

The mangrove plant (*Sonneratia ovata*) is one of the plants that abundantly grows in coastal areas, specifically in Mentawir, Penajam Paser Utara. This plant holds ecological significance, serves as a food source, and also functions as a traditional remedy for asthma, fever reduction, hemorrhoid treatment, muscle pain, back pain, bone pain, joint pain, and hepatitis. However, toxicity data regarding this plant are still limited. The purpose of this research is to determine the yield value, results of secondary metabolites, and the toxicity profile of the ethanol extract of mangrove fruit (*Sonneratia ovata*). This research follows a laboratory experimental approach with qualitative and quantitative methods. The results obtained from this study indicate a yield value of 56.458% for the mangrove fruit extract. Phytochemical screening results show that the ethanol extract of mangrove fruit is positive for flavonoids, tannins, phenolics, and saponins. Toxicity results reveal that the ethanol extract of mangrove fruit has a toxicity value of 7727.914 ppm. Based on these research findings, it can be concluded that the toxicity test using the BSLT method categorizes the ethanol extract of mangrove fruit as non-toxic.

**Keywords:** *Sonneratia ovata*, Maceration, Phytochemical Test, BSLT

OPP20

**Standardization Of Specific Parameters Of Dayak Onion Bulbs (*Eleutherine bulbosa* (Mill.) Urb.) From Several Regions Of Kalimantan**

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**Abstract**

Dayak onion plants (*Eleutherine bulbosa* [Mill.] Urb.) are tubers from the *Iridaceae* family. Dayak onion bulbs are known to have pharmacological effects as anti-inflammatory, anticancer, antimicrobial, antidiabetic, antihypertensive and antiviral from several studies that have been carried out. Standardization of simplicia and extract were carried out as a quality assurance process for Dayak onion bulbs which are used by the community as traditional medicine. The aims of the research to show specific parameters from five regions of Kalimantan, namely East Kalimantan, South Kalimantan, North Kalimantan, West Kalimantan and Central Kalimantan. The results of specific parameters including organoleptic tests from five regions of Kalimantan have form as thick extract, a bitter taste, a distinctive smell and a reddish brown color. Based on the fluorescence test, Dayak onion bulbs have a characteristic of color changing in different reagent. The test of as Dayak onion bulbs simplicia from five different regions with water and 96% ethanol solvent using oven heating had water soluble essence levels resulted 6.446%; 3.39%; 2.574%; 10.136%; 2.594% and the ethanol soluble essence content is 0.756%; 3.766%; 1.474%; 9.79%; 1.862%, respectively.

**Keywords:** Dayak onion bulbs (*Eleutherine bulbosa* [Mill.] Urb.), Standardization, Specific Parameters, Kalimantan

OPP21

**Formulation of Handwash Essential Oil and Hydrosol of Lime Peel (*Citrus aurantifolia*)  
as Antibacterials**

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**Abstract**

The hand is the body part that most frequently comes into contact with the external environment and is used in daily activities. This facilitates contact with microorganisms and the possibility of transferring to other objects. One of the natural ingredients that can be utilized as an antibacterial is lime (*Citrus aurantifolia*). The purpose of this study was to obtain a handwash preparation containing essential oil and lime peel hydrosol with antibacterial activity and characteristic results and physical stability in accordance with the requirements. This research method is laboratory experimental research with qualitative and quantitative methods. The results showed that the characteristics of the handwash preparation in the organoleptic test, pH, soap stability, and specific gravity met the requirements. Lime peel essential oil and hydrosol handwash preparations have antibacterial activity in the strong to very strong category with the diameter of the kill zone at concentrations of 10%, 17.5%, and 25% being 19.64; 21.79; 19.69 on *Escherichia coli* bacteria and 19.23; 22.32, and 20.66 on *Staphylococcus aureus* bacteria, respectively.

**Keywords:** Essential oil, hydrosol, handwash, lime peel

**Mucolytic Activity Test of Ethanol Extract of Soursop Leaf (*Annona muricata* Linn)  
Using Bovine Intestinal Mucosa In Vitro**

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**Abstract**

Soursop leaves (*Annona muricata* Linn) are one of the traditional medicinal plants that have not been extensively studied for their use in cough medicine. Cough is a symptom of respiratory tract disorders and often causes discomfort. One example of a cough is a productive cough. Mucolytics are drugs that work by breaking down mucoprotein strands. This research aims to explore the potential of soursop leaf extract as a mucolytic and identify its active compound groups. The extraction method used is maceration with 70% ethanol. The test uses bovine intestinal mucosa with negative control using phosphate buffer, positive control using herbal medicine X, and the test group using soursop leaf extract with concentrations of 0.5%, 0.75%, and 1%. The viscosity of the test solution is measured with a Rion viscometer. Mucolytic activity is observed through the decrease in mucin viscosity. The research results show that soursop leaf extract at a concentration of 1% has mucolytic effects comparable to herbal medicine X as the positive control. Soursop leaf extract contains compounds such as alkaloids, flavonoids, tannins, and saponins

**Keywords:** Mucolytic, Soursop Leaf, Bovine Bowels Mucose

OPP23

## **Formulation of Drink Combination of Dark Chocolate and Herbal Ingredients to Treat Primary Dysmenorrhea**

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### **Abstract**

Primary dysmenorrhea is the sensation of pain during menstruation characterized by cramps and abdominal pain. An alternative therapy that can be used includes dark chocolate and several herbal plants with the potential as analgesics for menstrual pain, such as sambiloto, turmeric, red ginger, and moringa leaves. This research involves the development of the mentioned ingredients by combining dark chocolate and these plants (herbal ingredients), which will then be formulated into a drink to assess the formulation and panelists' preferences for the drink. The study evaluates the formulation, including organoleptic tests, homogeneity, pH and viscosity measurements, and formulation stability. Subsequently, a hedonic test is conducted to assess panelists' preferences. Formulation evaluation indicates organoleptic results with a brown color, chocolate aroma, sweet taste, slightly bitter, and a distinctive herbal flavor. The formulation is homogeneous with a pH of 5.6 and viscosity of 30 cP. Stability testing shows that the formulation remains stable for 21 days at a cold temperature (8-10°C) and 3 days at room temperature (22-24°C). The hedonic test results predominantly show a “very like” and “like” towards the organoleptic aspects of the drink formulation.

**Keywords:** Primary Dysmenorrhea; Dark Chocolate; Herbal Ingredients; Drink

OPP24

**Phytochemical Screening Test and Sunscreen Activity of Belimbing Wuluh Leaf Extract  
(*Averrhoa bilimbi* L.)**

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**Abstract**

Belimbing wuluh (*Averrhoa bilimbi* L.) is a plant widely distributed in Indonesia. The aim of this research was to determine secondary metabolites and sunscreen activity in Belimbing wuluh leaves. This research method is laboratory experimental research with qualitative and quantitative methods. The results obtained from this research were that Belimbing wuluh leaf extract positively contained flavonoids, saponins, alkaloids and tannins, while the results of testing the sunscreen activity of Belimbing wuluh leaf extract at SPF values of concentrations of 100 ppm, 150 ppm, 200 ppm, 250 ppm and 300 ppm were found to be 16.32; 22.32; 20.31; 27.69; 28.36 and the %Te value with the same concentration is 1.55; 0.49; 1.21; 0.14; 0.08 and also for %Tp the result was 88.666; 209.61; 352.45; 517.25; 960.80. Based on the results of this research, it can be concluded that the SPF value at all concentrations is included in ultra protection, at the %Te value at a concentration of 100 extra protection is obtained while the other concentrations are included in sunblock, and the %Tp value at all concentrations is not included in the range.

**Keywords:** (*Averrhoa bilimbi* L.), Sunscreen, SPF, %Te %Tp

OPP25

**Antioxidant Activity Herbal Tea Combination of Seaweed (*Eucheuma cottonii*) and  
Ginger Rhizome (*Zingiber officinale*)**

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**Abstract**

Seaweed (*Eucheuma cottonii*) and ginger rhizome (*Zingiber officinale*) are known to have antioxidant activity. Currently, herbal tea is widely consumed by the public. This study aims to determine the antioxidant activity of herbal tea combining seaweed and ginger rhizomes. Antioxidant activity testing was carried out using the DPPH method. The test was carried out by individually measuring the antioxidant activity of seaweed herbal tea and ginger rhizome and then combined. The antioxidant activity of seaweed herbal tea and ginger rhizome was measured using a UV-Vis spectrophotometer with a concentration series of 12.5; 25; 50; 100; and 200 ppm. The test results showed that the IC<sub>50</sub> value for seaweed was 136.43 ppm, ginger rhizome 84.58045 ppm, the combination of seaweed rhizome and ginger 2:1, 1:1 and 1:2 respectively are 90.47571 ppm, 75.65193 ppm and 58.99158 ppm.

**Keywords:** Antioxidant; herbal tea; seaweed; ginger rhizome

**Formulation and Evaluation of Karamunting Fruit Extract (*Rhodomyrtus tomentosa*)  
Gel Peel Off Mask as an Antioxidant**

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**Abstract**

The antioxidant peel-off gel mask preparation functions to increase skin protection against exposure to free radicals. The aim of this research was to determine the antioxidant activity of the ethanol extract of caramunting fruit (*Rhodomyrtus tomentosa*), to obtain the basic formula for the best peel-off gel mask, and to determine the antioxidant activity of the peel-off mask made from the active ingredient of ethanol extract of caramunting fruit. Testing of the antioxidant activity of the ethanol extract of caramunting fruit was carried out using the DPPH (2,2,-diphenyl-1-picrylihydrazyl) method. The antioxidant activity of the ethanol extract of caramunting fruit was obtained at 4.2544 ppm. The best base for a peel off gel mask is obtained using 10% PVA. The peel off gel mask made from the active ingredient 0.5% ethanol extract of caramunting fruit has an IC<sub>50</sub> of 61,648 ppm and meets the criteria of SNI No. 06-2588 during 28 days of storage at room temperature, but the antioxidant activity decreased.

**Keywords** : Karamunting fruit ethanol extract, IC<sub>50</sub>, peel off gel mask, PVA

OPP27

**Standardization of Dayak Onion Bulbs (*Eleutherine bulbosa* [Mill.] Urb.) Endemic to Kalimantan with Non-Specific Parameters**

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**Abstract**

Standardization is the process of guaranteeing the quality of a final product, whether in the form of simplicia, extracts or herbal products, which is important to carry out with certain parameter values that have been determined and are constant in accordance with the conditions. Dayak onion bulbs (*Eleutherine bulbosa* [Mill.] Urb) a typical Kalimantan plant that has the potential to develop medicinal raw materials containing various compounds. The aim of this research to determine the results of standardization of non-specific parameters from East Kalimantan, West Kalimantan, South Kalimantan, Central Kalimantan and North Kalimantan in the form of simplicia powder and continued with the maceration extraction method using 96% ethanol solvent. Based on the results of quantitative research that has been carried out, the standardization of simplicia dayak onion bulbs from five different regions obtained non-specific drying shrinkage parameters of  $\leq 10\%$ ; water content  $\leq 10\%$ ; total ash content  $\leq 15\%$ , acid insoluble ash content  $\leq 1.5\%$ . The average test results meet the requirements, but for the drying shrinkage parameters in the East Kalimantan and South Kalimantan areas the values exceed the requirements and for the water content parameters in the South Kalimantan region the values exceed the requirements.

**Keywords** : Non-specific parameters, Standardization, Dayak onion bulbs (*Eleutherine bulbosa* [Mill.] Urb)

OPP28

## Formulation of Durian (*Durio ziberthinus L.*) Ethanol Extract Mouthwash

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### Abstract

Mouthwash is a solution used to clean the mouth, throat and teeth to eradicate microorganisms that cause bad breath, and maintain oral health. Durian is a fruit whose skin is not widely used so it only becomes organic waste. Durian skin contains flavonoid and saponin compounds which have antibacterial potential. This research aims to make an antibacterial mouthwash with the active substance ethanol extract of durian peel to inhibit bacterial growth *Streptococcus Mutans*, *Porphyromonas gingivalis*, and fungi *Candida Albicans* using the well method. Mouthwash is made in three formulas with varying concentrations of durian peel ethanol extract. The results of antimicrobial testing showed that mouthwash preparations with an extract concentration of 9% were able to inhibit bacterial growth *Streptococcus Mutans* with an inhibition zone diameter of  $7,56 \pm 0,524$  mm, *Porphyromonas gingivalis*  $7,47 \pm 0,041$  mm, and in fungi *Candida Albicans*  $17,60 \pm 0,914$  mm and has clear physical characteristics, has a distinctive aroma of durian peel and menthol, brown color, liquid form with a sweet and quite spicy taste. It has a specific gravity of  $1,0626 \pm 0,0010$  g/mL, pH of  $5,99 \pm 0,021$ , and viscosity of  $1,610 \pm 0,005$  Pa.s.

**Keywords:** Antimicrobial, Durian Peel, Mouthwash

OPP29

**Formulation of Guava Leaf Extract Gel Preparation (*Psidium Guajava* L.) as a Therapy for Canker Sores**

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**Abstract**

The guava leaf plant (*Psidium guajava* L.) is a plant that can be used as a traditional medicine for canker sores and anti-diarrhea. The chemical content of guava leaf extract which functions as an antibacterial is tannin. This research aims to determine the concentration of guava leaf extract which can be formulated in gel dosage form with physical evaluation that meets the requirements. Guava leaf extract was made using the maceration method using 96% ethanol as a solvent, then the extract was tested first to see its antibacterial activity against *Staphylococcus aureus*, *Streptococcus mutans* and *Escherichia coli* using the well method. The results of antibacterial testing showed that concentrations of 3% and 6% were the optimal concentrations to be used as a gel preparation for canker sores, this was indicated by the widest inhibitory diameter. FI guava leaf extract gel formula (3%) is the best formula which has the characteristics of a dark green color, a distinctive aroma of guava leaves, and is homogeneity. It also has pH of  $6\pm 0.023$ , viscosity of  $270\pm 30.472$  dPas, spread ability of  $5\pm 0.071$  mm.

**Keyword :** Antibacterial, Canker Sores, Guava Leaf

**Analgesic Activity Test of Combination Ethanolic Extract of Soursop Leaf (*Annona muricata* L.) and Cherry Leaf (*Muntingia calabura* L.) In Mice (*Mus musculus*) with the Writing Test Method**

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**Abstract**

The research titled "Analgesic Activity Test of Combination Ethanolic Extract of Soursop Leaves (*Annona muricata* L.) and Cherry Leaves (*Muntingia calabura* L.) in Mice (*Mus musculus*) with the Writhing Test Method" has been conducted. The purpose of this study is to identify the groups of secondary metabolite compounds contained in soursop and cherry leaves, as well as to determine the analgesic activity and effective dose of the combination of ethanol extracts from soursop and cherry leaves in male mice induced with 1% acetic acid intraperitoneally. 21 male mice were used as experimental animals and divided into 7 treatment groups, each consisting of 3 mice. Group I was given 0.5% Na-CMC as a negative control. Group II received a suspension of mefenamic acid at a dose of 1,3 mg/20gBB. Groups III, IV, V, VI, and VII were each given a combination of 70% ethanol extract of soursop and cherry leaves at doses of 4 mg/20gBB: 4 mg/20gBB with ratios of (1:1), (1:2), (1:3), (2:1), and (3:1), respectively. The results of the writhing test method showed % protection values of 59,15% (1:1), 33,33% (1:2), 75,12% (1:3), 53,53% (2:1), and 40,38% (3:1). Based on the % protection results, it can be concluded that the combination of soursop and cherry leaf extracts has analgesic activity at the ratios (1:1), (1:3), and (2:1) that meet the criteria for effectiveness as analgesics activity with % protection > 50%.

**Keyword:** Analgesic, soursop leaf (*Annona muricata* L.), cherry leaf (*Muntingia calabura* L.), mice (*Mus musculus*), writing method.

OPP31

**Characteristics of Kersen Leaf (*Muntingia calabura* L.) and Bay Leaf (*Syzygium polyanthum*) Herbal Tea as Antioxidants**

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**Abstract**

Antioxidants can protect body cells from damage caused by free radicals. Free radicals can damage cells and body tissue. The body has natural antioxidants but not in large quantities so the body needs antioxidants that come from outside. Antioxidants from outside the body can come from various natural ingredients native to Indonesia which have potential as antioxidants, one of which comes from cherry leaves (*Muntingia calabura* L.) and bay leaves (*Syzygium polyanthum*). This research aims to determine the antioxidant activity of cherry leaf (*Muntingia calabura* L.) and bay leaf (*Syzygium polyanthum*) herbal tea so that people can use it as an alternative source of antioxidants. The data collection method is carried out using instruments in the laboratory. The research results showed that cherry leaves (*Muntingia calabura* L.) and bay leaves (*Syzygium polyanthum*) were identified as containing alkaloids, flavonoids, saponins, tannins and terpenoids. Simplicia's characteristic data meets the requirements of SNI (*Indonesian National Standards*). As well as the IC<sub>50</sub> value of herbal tea, cherry leaves (*Muntingia calabura* L.) were found to be 1,39 µg/ml and bay leaves (*Syzygium polyanthum*) 1,72 µg/ml, which means they have very strong antioxidant activity because the IC<sub>50</sub> value is <50.

**Keywords:** Characteristics, Herbal tea of cherry leaves (*Muntingia calabura* L.) and bay leaves (*Syzygium polyanthum*), Antioxidants, IC50 value.

OPP32

**The Effect of Chemoterapy on Hematological Levels in Breast Cancer Patients at RSUD  
dr. Kanujoso Djatiwibowo Balikpapan**

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**Abstract**

Breast cancer is a malignant disease of breast tissue that can originate from the duct epithelium or lobules. Breast cancer therapy can be done with several types of therapy, one of which is chemotherapy. The most common side effect of chemotherapy is myelosuppression, a decrease in blood cell levels because chemotherapy agents are toxic to blood-forming organs. This research was conducted to understand the effect of chemotherapy in reducing blood cell levels in breast cancer patients who received chemotherapy at RSUD dr. Kanujoso Djatiwibowo Balikpapan for the period July 2022 to June 2023. This research is descriptive with a cross-sectional design. Of the 82 samples, 50 patients (60%) had erythrocyte levels below normal; hemoglobin in 79 patients (96%); hematocrit in 75 patients (91%); neutrophils in 20 patients (24%); leukocytes in 25 patients (30%); and thrombocytes in 6 patients (7%). The most common hematological levels below normal are hemoglobins and the least are thrombocytes

**Keywords:** ca mammae, hematology, mielosuppresion.

OPP33

**Formulation of Spray Gel Preparation from Lintut Leaf (*Strobilanthes kalimantanensis*)  
Essential Oil as an Antibacterial**

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**Abstract**

The Lintut plant (*Strobilanthes kalimantanensis*) is a herbaceous plant that grows in soft and watery soil. There is a strong essential oil contained in the lintut plant which has antimicrobial activity. This research was carried out to determine the optimal basis, formulation and physical properties of the lintut leaf essential oil spray gel preparation as well as the effectiveness of the preparation as an antibacterial. Next, bacterial identification is carried out on selective media. The results of the phytochemical screening of lintut leaf essential oil contain terpenoid compounds. The optimal spray gel preparation base uses 0.35% carbopol. The results of good antibacterial effectiveness testing were formula 4 with a concentration of lintut leaf essential oil of 6% which could reduce microorganisms by 88.19%. The results of the evaluation of the physical properties of the spray gel preparation showed that organoleptic, homogeneity, adhesion, pH, viscosity and spray pattern met the requirements and the results of the stability test showed stable results. There are staphylococcus aureus and coliform bacteria on selective media.

**Keywords:** spray gel, licorice plant, antibacterial

OPP34

**Basic Engineering for Making Jelly Candy using the Active Ingredient of Red Ginger  
(*Zingiber Officinale* Var. *Rubrum*)**

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**Abstract**

Candy is a solid food product made from sugar or other sweeteners with or without the addition of other common food ingredients and food additives permitted for confectionery. Among the public there are various types of candy circulating, including jelly candy, jelly candy which is included in the gummy candies group. The main ingredients needed to make jelly candy are sugar, glucose syrup, and gelling agents such as gelatin and carrageenan. The Simplex Lattice Design (SLD) method can be used to optimize formulas for a variety of different ingredient compositions so as to produce optimum formulas that have the desired physical properties. The purpose of using this method is to determine the right concentration of ingredients so that a formula is obtained that has optimum physical properties and a response that is accepted by consumers. This method is quick and practical because it can avoid determining the formula by trial and error. The aim of this research is to determine the optimal base for making jelly candy by looking at the water content and pH values of each base. This research method uses the simplex saltice design application. The results obtained from the application of this simplex lattice design are the optimal base ratio of gelatin and carrageenan 12:4.

**Keywords:** Jelly Candy, Basis, Simplex Lattice Design

OPP35

**Formulation of Lip Cream from Ethanol Extract of Asoka Flower (*Ixora coccinea*) as a Natural Dye**

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**Abstract**

Asoka flower (*Ixora coccinea*) possesses pigments that can be used as natural colorants in decorative cosmetics. The use of natural colorants in decorative cosmetics is still limited and the demand for decorative cosmetics especially lip cream is increasing. This research aims to determine whether ethanol extract of Asoka flowers can be used as an alternative natural colorant in lip cream formulations. This research began with extraction of Asoka flowers using maceration method with 96% ethanol solvent and citric acid. Base was optimized using a single thickener and combination of carnauba wax and candelilla wax. Base was evaluated and formulated with flower extract. The formulation quality was determined through organoleptic, homogeneity, spreadability, adhesion, viscosity, and pH tests. The extraction results yielded a yield of 31.9%. Best base was bases F3, F4, and F5. Formulations using Asoka flower extract with 2%, 4%, and 6% produced sequentially light brown, reddish-brown, and red colors. F3 produces the best color at pH 4.8. The evaluation results include the distinctive aroma of chocolate, semi-solid consistency, homogeneity, spreadability, adhesion, viscosity, and pH that meet the pharmaceutical requirements. In conclusion, ethanol extract from Asoka flowers can be utilized as an alternative natural colorant in lip cream formulations.

**Keywords:** *Ixora coccinea*, Natural Colorants, Lip Cream, Carnauba Wax, Candelilla Wax

OPP36

**Literature Review: Anti-Inflammatory, Antibacterial, and Antioxidant Activities of Plants of the Genus *Piper* Species Red Betel (*Piper Crocatum*), and Green Betel (*Piper Betle* L.)**

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**Abstract**

In Indonesia, we can find a lot of betel plants, the cultivation of betel plants is not too complicated, but the use of betel leaves has not been maximized. Betel plants contain secondary metabolites such as alkaloids, flavonoids, tannins, saponins, and essential oils. These metabolites are thought to have activity as anti-inflammatory, antibacterial, and antioxidant. The research method carried out is the literature review method by collecting literature on anti-inflammatory, antibacterial and antioxidant activities of red betel and green betel plants. The results obtained by red betel and green betel have anti-inflammatory, antibacterial and antioxidant activities; green betel shows the best anti-inflammatory activity of 64.53%; green betel shows the best antibacterial activity where the inhibition zone of gram-positive bacteria is 15.031 mm and gram-negative bacteria is 20.02 mm and antioxidant activity is 2.0375 ppm.

**Keywords:** Secondary Metabolites, Betel, Anti-inflammatory, Antibacterial, Antioxidant

**Formulation and Evaluation of Physical Characteristics of *Blush On Stick* Preparations Using Secang Wood Extract (*Caesalpinia sappan* L.) as a Natural Color**

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**Abstract**

Secang wood (*Caesalpinia sappan* L.) is a medicinal plant that is rich in benefits. Secang wood is used as a natural dye because it contains a dye called brazilin. The brazilin content in secang wood gives it a distinctive red color. The aim of this research is to formulate a blush on stick preparation made from natural secang wood extract dye and evaluate the physical characteristics of the blush on stick. The results of the evaluation of the physical characteristics of the formula have met the standard physical requirements for the preparation which includes several test parameters including Organoleptic, Homogeneity, Polishing and pH. The concentrations of secang wood extract used are 10%, 15% and 20%. Based on the evaluation results of the physical characteristics of the blush on stick, it has a dense consistency, has a distinctive smell of oleum rose, and the color depends on the concentration of the extract used, 10% concentration is reddish orange, 15% concentration is red, and 20% concentration is bright red. The polishing of each blush on stick preparation is declared homogeneous because there are no coarse grains. The polishing of each blush on stick preparation is stated to be even because each polish produces an even color. The pH of each blush on stick preparation is 6.78, 6.81, 6.83. From the data, it is concluded that each preparation meets the standards and secang wood extract can be used as a natural dye in blush on stick.

**Keywords:** Secang wood, Blush On Stick, Natural Color.

OPP38

## Acute Toxicity Test of Red Bajakah Bark Decoction (*Uncaria nervosa* Elmer) in Female Mice

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### Abstract

*Uncaria nervosa* Elmer is a type of bajakah plant that contains many compounds that have potential in the pharmaceutical field, which one is anticancer. In this study, acute oral toxicity testing was carried out with the aim of determining the LD50 value of administering a decoction of bajakah skin (*Uncaria nervosa* Elmer). Twenty female mice were used as experimental animals and divided into 4 groups, consisting of 3 test dose groups and 1 control group. The doses used are 300, 2000, and 5000 mg/kg BW. A single dose was administered orally on day 0 and observations were carried out until day 14, then the number of test animals that died in each group, clinical symptoms, liver organ index, and liver cell tissue of mice were calculated. The results of the secondary metabolite test showed that there were flavonoids, alkaloids and phenolics contained. The research results showed that the LD50 value, namely the LD50 value of bajakah decoction orally, was 5774.3 mg/kgBW and was classified in the non-toxic group (>5000 mg/kg). Additional parameters, the organ index is not potentially toxic and there are changes in the liver cell tissue of mice in the range of >25% to >50%.

**Keywords:** *Uncaria nervosa* Elmer, Acute toxicity, LD50

OPP39

**Analysis of The Level of Knowledge and Actions of Mothers in Self-Medication of Diarrhea in Toddlers at The Sambutan Health Center**

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**Abstract**

Self-medication is a treatment that a person does to treat symptoms/diseases without having to consult a doctor first for minor illnesses such as fever, cough, and diarrhea. Self-medication can have adverse effects if not done rationally. This study used a descriptive method with a cross sectional time approach on 100 respondents. The results of the analysis of maternal knowledge in self-medication of diarrhea in toddlers at the Sambutan Health Center showed that 57% of respondents had good knowledge, 22% were sufficient, and 21% were lacking, while the results of the analysis of self-medication actions showed that 50% of respondents had good actions, 26% were sufficient, and 24% were lacking. The results of the chi-square test show that there is a relationship between knowledge and maternal actions in diarrhea self-medication and show that there is no relationship between education and income on maternal actions in self-medication.

**Keywords:** diarrhea, toddlers, knowledge, action, self-medication.

**OPP40**

**Evaluation of Vaccine Distribution and Storage in Several Health Departments in East Kalimantan**

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**Abstract**

Vaccines are biological products, containing antigens in the form of killed and weakened microorganisms that are useful for stimulating immunity. Vaccines are very susceptible to damage, so their storage requires special handling to maintain vaccine quality. The health department is responsible for the implementation of storage and distribution of vaccines evenly and regularly and on time to health service units. The purpose of this study was to determine the description of vaccine types, suitability of vaccine distribution and storage with vaccine management guidelines, and good drug distribution methods in several East Kalimantan Health Offices. This research method uses descriptive research using a questionnaire. The results showed that the description of the types of vaccines stored and managed by the three East Kalimantan Health Offices was 14 types of vaccine preparations. The questionnaire results show that the suitability of vaccine distribution in several East Kalimantan Health Offices is fully by the 2021 vaccine management guidelines and the 2015 guidelines for good drug distribution methods, with a good category. The suitability of vaccine storage in several East Kalimantan Health Offices is fully by the 2021 Vaccine Management Guidelines and Good Drug Distribution Methods in 2015 with the Very Good category.

**Keywords:** Vaccine, Distribution, Storage

OPP41

**Evaluation of Drug Use in Gout Arthritis Patients in the Outpatients Installation of Pupuk Kaltim Bontang Hospital Period 2022**

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**Abstract**

Arthritis gout is a disease due to deposition of monosodium urate (MSU) crystals in the joints, kidneys, and other connective tissues as a result of hyperuricemia which can cause pain, swelling, impaired joint movement, and even tophi. Without rational treatment, there will be overdiagnosis and inadequate management which can aggravate gout. This study used observational studies and descriptive methods in 87 samples at the outpatient installation of Pupuk Kaltim Hospital Bontang Period 2022. The results of the study of patient characteristics based on age were most in the age group 46-55 years with a total of 25 patients (28.7%), based on gender more occurred in men with a total of 75 male patients (86.2%), based on the most symptoms were pain with a total of 69 cases (68.3%), and based on the highest diagnosis was acute gouty arthritis with a total of 76 patients (87.3%). The results showed that the most widely used antipyretic therapy was Allopurinol, which was used by 62 patients, followed by Colchicine which was used by 47 patients. For analgesic, antipyretic, and anti-inflammatory therapy, NSAIDs were used by 23 patients and Paracetamol was used by 6 patients.

**Keywords:** gout arthritis, characteristics, treatment, rationality

**The Characteristics of Breast Cancer Patients Using Fentanyl in the Operating Room of  
Abdoel Wahab Sjahranie Hospital**

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**Abstract**

Breast cancer is the uncontrolled growth of cells in the breast due to abnormal changes in the p16 gene, which regulates cell growth. Mastectomy is a common treatment for breast cancer. Before undergoing mastectomy, patients undergo anesthesia, often using the analgesic fentanyl. However, there is no research on the characteristics of fentanyl users among breast cancer patients at Abdoel Wahab Sjahranie Hospital. This observational descriptive study aims to identify the characteristics of breast cancer patients using fentanyl in the operating room at Abdoel Wahab Sjahranie Hospital. Utilizing purposive sampling, the study includes 75 patients. Findings indicate that the majority are in the early elderly group (46-55 years), with 36 patients (48%), and the most frequent diagnosis is Carcinoma mammae sinistra with 36 patients (48%). The predominant procedure is Modified Radical Mastectomy (MRM) with 51 patients (68%). Most patients experience mild pain (62%), and the highest blood pressure classification is pre-hypertension in 26 patients (35%), with the most common comorbidity being hypertension in 16 patients (21%). A total of 65 patients (87%) have no history of allergies. These results serve as a basis for rational therapy assessment for breast cancer patients at Abdoel Wahab Sjahranie Hospital.

**Keywords:** Breast Cancer, Fentanyl, Characteristics

**OPP43**

**Antioxidant Activity Test of Natto from Fermented Soybean, Red Bean and Green Bean with DPPH Method**

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**Abstract**

Antioxidants are compounds that can counteract free radicals and inhibit the formation of new free radicals by donating electrons and binding free radicals and function to stop or prevent cell damage caused by free radical oxidation. Factors that cause free radicals are exposure to air pollution, cigarette smoke, radiation, and other factors. Natto is beneficial for the health of the body because it has the ability to dissolve thrombus in the body, stop osteoporosis, has anticancer, and has high antioxidants. This study aims to determine the antioxidant activity of natto from soybeans, kidney beans and mung beans against DPPH (*2,2-diphenyl-1-picrylhydrazyl*) free radicals. Soybean, kidney bean and mung bean natto were macerated in ethanol p.a for 12 hours. Natto was prepared with concentration variation of 62.5 ppm, 125 ppm, 250 ppm 500 ppm and 1000 ppm and ascorbic acid with concentration variation of 2 ppm, 4 ppm, 6 ppm, 8 ppm and 10 ppm. Antioxidant activity against DPPH radical silencing was measured absorbance to determine using Uv-Vis spectrophotometry. The best antioxidant activity results in red bean natto with  $IC_{50}$  7.49 ppm and ascorbic acid 1.70 ppm as a positive control. The results of the red bean natto test have very strong antioxidant activity category.

**Keywords:** Antioxidant, DPPH, Natto,  $IC_{50}$

**Formulation Of Liquid Soap with Ethanol Extract from African Leaves (*Vernonia Amygdalina Delile*) and its Antibacterial Activity**

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**Abstract**

In empirical terms, African leaf (*Vernonia amygdalina delile*) has been widely used by the Indonesian community as a medicinal plant, particularly for diseases caused by bacteria. Liquid soap takes a liquid form, producing more soap so it is more attractive. This research aims to make the benefits of African leaves easily applicable, formulated in the form of liquid soap that meets standards and has antibacterial effects. The research method employed a qualitative and laboratory experimental approach. The active substances in African leaves were obtained by dissolving the simplicia in 96% ethanol at concentrations of 5%, 10%, and 20%. The base formula was created by varying the concentration of VCO (Virgin Coconut Oil) at 20%, 25%, and 30%. The research results indicate that the base formula 1 (F1) and 5% extract concentration have optimum characteristics. The organoleptic test results show a dark green color, a liquid with a distinctive peppermint fragrance, pH value of 10.80, viscosity of 19 dPa.s, specific gravity of 1.086 g/mL, water content of 29.5%, foam stability of 95.56%, and free fatty acid content of 0.33%. The antibacterial test results show an inhibition zone diameter of 23.8 mm against *Staphylococcus aureus* and 25 mm against *Escherichia coli*.

**Keywords :** African leaves, Liquid soap, Antibacterial

OPP45

**Determination of the Sun Protection Factor (SPF) Value of Ethanol Extract of Black Turmeric Rhizome (*Curcuma caesia* ROXB.) using the Method UV-Vis Spectrophotometry**

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**Abstract**

Black turmeric (*Curcuma caesia* ROXB.) is a species of turmeric, the *Zingiberaceae* family which has high antioxidant activity and is closely related to sunscreen activity, which is a compound that absorbs or reflects sunlight so that it can prevent skin disorders. This research aims to determine the *Sun Protection Factor* (SPF) value of ethanol extract of black turmeric rhizomes using the soxletation extraction method using 96% ethanol solvent and determining the SPF value using the UV-Vis spectrophotometric method. Tests were carried out using varying extract concentrations of 100 ppm, 150 ppm, 200 ppm, 250 ppm and 300 ppm measured at a UV wavelength of 290-320 nm. The research results showed that the SPF values of the 100 ppm, 150 ppm, 200 ppm, 250 ppm and 300 ppm concentration series were 10,93; 10,90; 13,49; 19,31; 20,42. Based on these results, it was concluded that the high SPF values were found at concentrations of 250 ppm and 300 ppm, namely 19,31 and 20,42 which were included in the ultra protection category.

**Keywords:** Black Turmeric, SPF, UV-Vis Spectrophotometry

OPP46

**Characterization of Seaweed Carrageenan (*Eucheuma Spinosum*) from Bontang Waters, East Kalimantan**

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**Abstract**

Seaweed can be used as food, beverage and medicine, some processed seaweed products such as agar, alginate and carrageenan are quite important compounds in the industry, seaweed is better known for its use as a source of natural polysaccharides. Carrageenan is a natural polysaccharide that has properties as a developer, gelling agent and as a good stabilizer so that carrageenan is used in pharmaceutical and cosmetic formulations as a stabilizer in dispersion systems, viscosity enhancers and as a gelling agent. This study aims to determine the physical characterization of *Eucheuma spinosum* seaweed extract obtained from the waters of Bontang, East Kalimantan. This study used alkaline extraction method with 8% KOH alkaline solution to obtain carrageenan. Characterization was done by looking at the test of water content, ash content, sulfate content and viscosity. Based on the results obtained, it shows that the carrageenan produced meets the requirements set by the Food and Agriculture Organization (FAO) with each test of 8.6% water content, 34.9% ash content, 35.6% sulfate content and 333.3 cps viscosity.

**Keywords:** Seaweed, Carrageenan, Natural Polysaccharides

OPP47

**Formulation of Hair Tonic Preparation Ethanol Extract of Belimbing Wuluh Leave (*Averrhoa bilimbi* L.) and Test of Effectiveness of Hair Growth in Rabbits**

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**Abstract**

Star fruit leaves (*Averrhoa bilimbi* L.) are more often used by the community as food ingredients and as traditional medicine. In addition, star fruit leaves also contain compounds that can act as hair growth stimulants. This study aims to determine the physical evaluation results of star fruit leaf extract hair tonic preparations and to determine the effectiveness of hair growth from star fruit leaf extract hair tonic preparations on rabbits. Evaluation of the physical characteristics of the base includes Organoleptic test, homogeneity test, specific gravity test, and viscosity test. The results of the stability evaluation of star fruit leaf extract hair tonic preparations are brown, have a distinctive smell of star fruit leaves, liquid and homogeneous, pH 5.09 - 5.15, specific gravity 1.0030 - 0.9979 g/mL, viscosity 3.633 - 4.467 cps and non-irritating. The hair growth effectiveness test on day 30 is hair tonic base (10.46mm), F1 (15.45mm), F2 (17.57mm), F3 (15.27mm), F4 (17.86mm) and hair tonic regrou (11.66mm). The conclusion in this study was that the hair tonic preparation of star fruit leaf extract showed that the most effective hair growth length was F4 with an extract concentration of 10%.

**Keyword :** *Averrhoa bilimbi*, hair growth, hair tonic

OPP48

**Evaluation of the Use of Antituberculosis Drugs in Outpatient Installations of Taman Husada Bontang Regional General Hospital**

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**Abstract**

Tuberculosis (TB) is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. TB treatment is carried out for a minimum of 6 months, namely the intensive phase of 2 months and the advanced phase of 4 months. Antituberculosis drugs consist of 4 types of drugs including Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), and Ethambutol (E). Evaluation of drug use is carried out to ensure that the drug has been used appropriately, safely and effectively. This research is an observational analysis with descriptive and analytical using retrospective patient medical record data. The most patient characteristics obtained from 100 samples were 44% aged 19-44 years, 50% weighed 38-54 kg, 57% male gender, 58% working patients, 28% living in South Bontang District, and 15% had comorbid diabetes mellitus. The highest use of OAT is 93% Fixed Dose Combination (FDC).

**Keywords:** Tuberculosis (TB), OAT, FDC

OPP49

**Physical and Chemical Characterization of Carrageenan from Seaweed (*Eucheuma spinosum*) as a Gel Preparation Base**

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**Abstract**

Gel preparations are semi-solid systems consisting of suspensions made from small inorganic particles or large organic molecules, penetrated by a liquid. Gel preparations generally use synthetic polymer bases, which have the disadvantages of not being recyclable, having toxic effects and not being biocompatible. Meanwhile, natural polymer bases have advantages, namely in terms of safety, biocompatibility, productivity, easier extraction, and abundant raw materials. To produce natural polysaccharides, extraction is carried out from seaweed (*Eucheuma spinosum*) into carrageenan as an alternative additional ingredient. The aim of this research was to determine the physical evaluation and optimal formula of the carrageenan gel base. The research results showed that the formula (F3) 1.5% carrageenan, 15% propylene glycol and 0.2% metal paraben met the optimal base criteria and met the standard organoleptic evaluation results, yellowish clear, thick texture, distinctive aroma, homogeneous pH of 5.77, adhesion power 7.71 seconds, spreadability 6.12 cm, viscosity 55 dpas. In conclusion, carrageenan from seaweed can be used as an alternative base for gel preparations from natural polysaccharides.

**Keywords:** Seaweed, Carrageenan, Gel Base

**OPP50**

**Formulation of Rubber Seeds (*Havea Brasiliensis*) and Hanjeli (*Coix laycryma-jobi*) as an Alternative Food for Snack Bars**

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**Abstract**

Rubber seeds are waste with a carbohydrate content of 15.9%, protein 27%, fat 32.3%, which has potential as a food ingredient. Hanjeli seeds in 100 g contain a nutritional value of 9.1-23 g of protein, 0.5-61 g of fat, 58.3-77.2 g of carbohydrates, and 0.514 g of vitamin B. The aim of this research is to determine the evaluation and hedonic test of snack bars made from rubber seeds and hanjeli seeds. This research method is an experiment based on the results of making a snack bar. Making Snack bar formulations F1 (Rubber flour and hanjeli 30:20), F2 (Rubber flour and hanjeli 25:25), F3 (Rubber flour and hanjeli 20:30), F4 (Rubber flour and hanjeli 10:45), and F5 (Gum flour and hanjeli 5:45). The evaluation results of the snack bar showed that the best water content F1 was 4.47%. The ash content of the best F1 formulation is 1.66%. The best fat content formulation F5 9.74%. The best protein content in F1 is 14.41% and the best carbohydrate content in F5 is 72.26%. The hedonic test results of color, aroma, taste, texture and overall the most liked by the panelists were the F4 formulation.

**Keywords :** Rubber Seeds, Hanjeli, Snack Bar

OPP51

**The Effect of Giving Water Extract of Black Turmeric (*Curcuma Caesia* Roxb.) using the Green Solvent Method on Blood Glucose Levels of Mice (*Mus Musculus*)**

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**Abstract**

Black turmeric contains flavonoids which can suppress the decline in blood glucose by restoring sensitivity to insulin secreted by pancreatic beta cells. Apart from that, flavonoids can reduce blood glucose levels by several mechanisms. This study aims to determine the effect of administering black turmeric (*Curcuma caesia* roxb.) water extract using the green solvent method on the blood glucose levels of mice (*Mus musculus* L). The research method uses a green solvent-based Microwave-Assisted Extraction (MAE) extraction method with the solvent used being choline chloride-sorbitol. Thirty male mice were divided into 6 treatment groups, namely negative group, test I (dose 25 mg/kgBB), test II (dose 50 mg/kgBB), test III (dose 100 mg/kgBB), test IV (dose 200 mg /kgBB) and V test (dose 400 mg/kgBB). Mice were induced with alloxan monohydrate at a dose of 210 mg/kgBB intraperitoneally for 3 days. Then black turmeric water extract was given for 7 days and blood glucose levels were checked on the next day. 8. Based on the research results, it was concluded that test V (dose 400 mg/kgBB) had the highest activity in reducing glucose levels with an average reduction of 182.3 mg/dl compared to the other test groups.

**Keywords:** Black Turmeric, blood glucose levels

**Antifungal Activity of Kerokot Herb Ethanol Extract (*Lygodium microphyllum*)**

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**Abstract**

Dandruff is a common disease at the age of puberty, especially due to many activities that trigger sweating, so that the scalp becomes moist and causes dandruff. Kerokot herb (*Lygodium microphyllum*) contains a class of compounds that function as antifungal including phenolics, alkaloids, and tannins. This study aims to determine the antifungal activity of kerokot herb ethanol extract on the growth of *Malassezia furfur*, *Candida albicans*, and *Aspergillus niger* which causes dandruff. The extraction method used was maceration with ethanol 70%. Antifungal activity testing used the agar well diffusion with extract concentrations of 20%, 30%, and 40%, positive control (ketoconazole 2%), and negative control (DMSO 10%). The results showed that from three concentrations, namely 20%, 30%, and 40%, the average diameter of the inhibitory zone against *Malassezia furfur* was  $6.48 \pm 0.16$  mm,  $8 \pm 0.39$  mm,  $9.45 \pm 0.39$  mm, and positive control was  $10.3 \pm 0.24$  mm. Then against *Candida albicans* was  $10.46 \pm 0.26$  mm,  $13.01 \pm 0.04$  mm,  $13.53 \pm 0.07$  mm, and positive control was  $9.89 \pm 0.33$  mm. Meanwhile, against *Aspergillus niger* was  $10.24 \pm 0.21$  mm,  $11.26 \pm 0.19$  mm,  $12.24 \pm 0.21$  mm, and positive control was  $10.63 \pm 0.08$  mm. Based on the result of this study, it can be concluded that kerokot herb ethanol extract has antifungal activity against the growth of dandruff-causing fungi.

**Keywords:** Antifungal, *Lygodium microphyllum*, *Malassezia furfur*, *Candida albicans*, *Aspergillus niger*

OPP53

**Analisis Karakteristik Dismenore Pada Remaja Putri  
Analysis of the Characteristics of Dysmenorrhea in Adolescent Girls**

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**Abstract**

Menstrual pain or dysmenorrhea is pain felt during menstruation so that it can interfere with a woman's daily activities. Usually women experience discomfort during menstruation, such as cramps and are usually accompanied by nausea and dizziness. The aim of this research is to determine the characteristics of young women who experience dysmenorrhea at SMKN 1 Muara Bengkal. This research is descriptive in nature with an observation method. It was found that the incidence of dysmenorrhea occurred most frequently in respondents who were 16 years old at 36.67%, at menarche age 12-13 years at 63.33%, with a duration of menstrual pain of 1 day at 40.00%, respondents did not take care of the pain. amounted to 66.67%, respondents with symptoms of dizziness amounted to 60.00%, and it was found that 76.67% of respondents said that menstrual pain could affect activities. So it can be concluded that there is no relationship between age, age of menarche, duration of menstrual pain, treatment during menstrual pain, other symptoms during dysmenorrhea which can influence the occurrence of dysmenorrhea.

**Keywords:** Menstruation, dysmenorrhea, menstrual pain, teenage girls

OPP54

**The Effect of Giving Celery (*Apium graveolens* L.) Juice as an Anti-Anemia on the Hemoglobin of Mice (*Mus musculus*) After Sodium Nitrite Induction**

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**Abstract**

Anemia is a disease in which hemoglobin levels in the body are low until they reach a state far below normal limits. Celery is a plant that contains iron compounds which can increase hemoglobin levels. Measurement of hemoglobin levels using the EasyTouch GCHb tool. This study aims to determine the effectiveness of administering celery juice (*Apium graveolens* L.) as an anti-anemia on the hemoglobin of mice after being induced by sodium nitrite orally for 32 days. After the anemia condition was achieved, they were given test treatment for 12 days by dividing the mice into five treatment groups, each consisting of 3 mice. The positive control group was given distilled water, the negative control group was given Inbion supplements at a dose of 0.65 mg / 20 g BW, group I was given celery juice with a concentration of 25%, group II was given celery juice with a concentration of 50%, and group III was given celery juice with concentration 75%. The research results obtained that the average level of the positive group was 14.5 g/dL, the negative group was 14.6 g/dL, group I was 15.3 g/dL, group II was 15.5 g/dL, and group III, namely 14.2 g/dL. Based on the research results, group II with a concentration of 50% had the highest effect on increasing Hb levels.

**Keywords:** Anemia. Celery Juice. Hemoglobin

**OPP55**

**Antioxidant Activity Test of Serum Preparation from Dayak Onion Bulb Extract  
(*Eleutherine bulbosa* [Mill] Urb.)**

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**Abstract**

Antioxidant compounds are one of the compounds that used as anti-aging agent. Dayak onion bulbs contain bioactive compounds such as phenolics and flavonoids that have high antioxidant activity. Serum is a preparation that has active substances with high concentration and low viscosity, which delivers a thin film of active ingredients on the skin surface. The purpose of this study was to determine the antioxidant value of serum preparations from dayak onion bulb extract with a concentration of 1.5% using distilled water solvent (F1), NADES choline chloride-sorbitol (F2) and 96% ethanol (F3). The research method conducted was antioxidant activity test using DPPH method. The results of serum antioxidant test showed that formula F1, F2 and F3 had strong antioxidant activity with value 59.11 ppm, 99.63 ppm, and 54.28 ppm respectively.

**Keywords:** Antioxidant, serum, dayak onion bulb.

**Formulation of Aromatherapy Candle with Active Ingredients of Cananga (*Cananga odorata*) and Sweet Orange (*Citrus sinensis*) Essential Oils**

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**Abstract**

Aromatherapy is a therapeutic treatment using fragrances derived from specific materials by utilizing the extracted essential oils from plants. Cananga flowers (*Cananga odorata*) and sweet orange (*Citrus sinensis*) are known to contain essential oils with relaxation effects, stress, rapid heart rate, and for high blood pressure. The research aims to create an aromatherapy candle using the essential oils of cananga and sweet orange. The research was conducted experimentally. Essential oils were obtained using the microwave hydrodistillation method, and the identification of terpenoid compounds was used to ensure that the obtained oils were indeed essential oils. The basic candle formula was created using stearic acid and paraffin. The research results showed that the essential oil yield obtained was 0.97% for *C. odorata* and 1.31% for *C. sinensis*. Both oils obtained qualitatively contained terpenoid compounds. The evaluation of the formula with stearic acid: paraffin ratios of 10%:90% (F1), 30%:70% (F2), 50%:50% (F3), 60%:40% (F4), and 80%:20% (F5) showed that F4 had the best results with a burn time 153 minutes and a melting point 55°C. Adding essential oils to the best formula resulted in the distinctive scents of cananga and sweet orange essential oils.

**Keywords:** aromatherapy, candle, essential oil, cananga, sweet orange

OPP57

**Antidiarrheal Effect of Black Turmeric Rhizome Extract (*Curcuma caesia* Roxb.) On Mice (*Mus musculus*)**

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**Abstract**

Diarrhea is a disease characterized by increased frequency of defecation and decreased stool consistency caused by impaired absorption of air and electrolytes in the intestine. Black turmeric is a plant that has properties as a traditional medicine for types of diseases, one of which is diarrhea. The aim of this study was to determine the antidiarrheal effect of black turmeric rhizome extract and the best dose of reducing defecation frequency and increasing stool consistency in diarrheal mice. This research was carried out using 40 mice that were induced by diarrhea using Ricini oleum. Mice were divided into 8 groups, the normal group without treatment, the positive control was given Loperamide HCl, the negative control was given 1% NaCMC, the test control group was given 5 variations of doses of black turmeric rhizome extract 50 mg/KgBW, 150 mg/KgBW, 250 mg/KgBW, 300 mg/KgBW, and 500 mg/KgBW. The results showed that black turmeric rhizome extract could reduce the frequency of defecation and increase stool consistency with a significant value ( $p < 0.05$ ). Black turmeric rhizome extract at a dose of 250 mg/KgBW is the best dose because it can reduce the frequency of defecation and increase stool consistency better than Loperamide HCl.

**Keywords :** Antidiarrheal, Black turmeric, Oleum ricini

OPP58

**Formulation and Evaluation of Anti-inflammatory Emulgel of Lemongrass  
(*Cymbopogon citratus*) Essential Oil**

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**Abstract**

Inflammation is a response that arises when the body experiences injury or tissue damage. Non-steroidal anti-inflammatory drugs (NSAIDs) can cause unwanted side effects so that alternative natural ingredients are needed to reduce these side effects. Lemongrass (*Cymbopogon citratus*) essential oil contains citral that are known to have potential as anti-inflammatory. This study aims to formulate lemongrass essential oil emulgel as topical anti-inflammatory. This study began with base optimization by varying Hydroxy Propyl Methyl Cellulose (HPMC) as a gelling agent with variations of 0.5%, 1.5%, 2.5%. The emulgel base with 1.5% HPMC was chosen as the optimal base based on the results of physical evaluation and stability test (cycling test). Lemongrass essential oil with a concentration of 1% was formulated into the selected base formula and physical evaluation was carried out which included organoleptics, homogeneity, emulsion type, pH, viscosity, spreadability, and adhesion, as well as stability (cycling test). From this study, an emulgel with M/A type characteristics was obtained, white in color, has lemongrass-like odor, semi-solid texture, pH 4.66, viscosity 206.67 dPas, spreadability 6.6 cm, adhesion 4.71 seconds, physically stable and meets the requirements of topical preparation based on SNI.

**Keywords:** emulgel, essential oil, lemongrass (*Cymbopogon citratus*), anti-inflammastory

OPP59

**Sunscreen Cream Formulation from a Combination of Ethanol Extracts of Kokang Leaves (*Lepisanthes amoena* (Hassk.) Leenh) and Kersen Leaves (*Muntingia calabura* L.)**

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**Abstract**

Kokang (*Lepisanthes amoena* (Hassk.) Leenh) and kersen (*Muntingia calabura* L.) are natural ingredients that have high antioxidant activity and are efficacious for various skin problems, one of which is as a natural sunscreen. The aim of this research is to formulate a combination of ethanol extracts of kokang leaves and kersen leaves in the form of a sunscreen cream that is physically stable and has sunscreen activity. The sunscreen activity test of the combination of kokang and kersen leaf extracts was calculated based on the absorbance value using a UV-Vis spectrophotometer. The formulation of the cream preparation was made in 3 different concentration variations of kokang and kersen leaf extract, namely F1 (0.05%: 0.1%), F2 (0.1%: 0.2%), and F3 (0.2%:0.4%). Then the physical evaluation of the cream preparation was tested using the Freeze-Thaw method for 4 cycles and an irritation test. Then the sunscreen activity of the cream preparation was tested. The research results showed that the combination of kokang and kersen leaf extract had sunscreen activity with %Te and %Tp values of 0.2783 and %Tp 9.2240 which were included in the sunblock category and SPF 24.43 in the ultra protection category. The three preparations are physically stable and have the best sunscreen activity in F3 with a %Te value of 0.24 and a %Tp of 6.1 in the sunblock category and SPF 25.54 in the ultra protection category.

**Keywords:** Kokang Leaves, Kersen Leaves, Sunscreen

**OPP60**

**Overview of Drug Use and Quality of Life of Hemodialysis Patients at Samarinda Medika Citra Hospital**

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**Abstract**

Chronic renal failure (GGK) is a decrease in kidney function that occurs more than 3 months, is persistent and persistent. Hemodialysis (HD) is the procedure that many GGK patients choose. HD performed for life can cause physical and psychological changes that trigger the emergence of conditions that can affect quality of life. This study aims to determine the characteristics, description of drug use and quality of life of GGK patients undergoing HD at Samarinda Medika Citra Hospital. The research method is descriptive observational with prospective data tracking. Data collection was carried out by giving KDQOL-SF questionnaires to GGK patients and collecting drug data by medical records. The sampling technique uses purposive sampling with the number of patients meeting the inclusion criteria of 37 patients. „The results showed that GGK patients were dominated by women 19 (51.34%). The majority of patients have low education (elementary, junior high, high school) 89.19%. The average result of hemodialysis duration was 56.76% with a time of >12 months. Most comorbidities are hypertension 41.38%. The highest use of drugs is cardiovascular system drugs 47.90%. The quality of life of GGK patients is mostly good 64.86%. By domain, physical health is mostly quite good (60.62%). The psychology domain is mostly good (64.92%). The problem domain of kidney disease was mostly good (63.18%). The patient satisfaction domain was mostly excellent (85.41%). Conclusion: the most drug use of cardiovascular system drugs. The quality of life of GGK patients is in the good category.

**Keywords:** Drug Use, Quality of Life, Hemodialysis.

OPP61

**The Effect of Storage Packaging on the Level of Non-Specific Compounds in Basil (*Ocimum basilicum* L.) at Certain Temperatures**

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**Abstract**

Basil (*Ocimum basilicum* L.) contains the most phenolic compounds among other compounds. This condition contributes to the blackening of basil leaves which can reduce the economic value and quality hence the proper storage packaging is needed. This research was conducted to determine the levels of water soluble and ethanol soluble compounds, post-storage weight changes, and qualitative analysis of phenolic compounds. Basil leaves which have been harvested and sorted then packaged in aluminum foil, banana leaves, polypropylene (PP) plastic and newspaper. The storage process is carried out at a temperature of 5-8°C for 5 days. After storage is complete, tests are carried out to determine the levels of water-soluble and ethanol-soluble compounds, post-storage weight changes, and qualitative analysis of phenolic compounds. The use of packaging influences changes in post-storage weight of basil where banana leaves have the lowest weight loss of 6%. Meanwhile, qualitative analysis of the compounds in the treatment showed that they still contained phenolic compounds.

**Keywords:** basil, storage packaging, compounds level

OPP62

**The Effect of Beta Sitosterol and Black Turmeric (*Curcuma caesia*) on Long term Ethanol Intake-Induced Appetite Suppression on Mice (*Mus musculus*)**

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**Abstract**

Ethanol can cause damage to the liver functions such as fatty liver, hepatitis, and cirrhosis. Fatty liver is caused the accumulation of fat in liver cells. Black turmeric (*Curcuma caesia*) contains a secondary metabolite compound, curcuminoid, with hepatoprotective activity and can prevent obesity. Beta-sitosterol is a derivative compound of phytosterol with the potential as a good hepatoprotector. Therefore, this study aims to asses the activities of black turmeric and beta-sitosterol as hepatoprotectors and anti-obesity agents. Mice were divided into 4 groups: Normal (N), beta-sitosterol 20 mg/kg body weight (BS), black turmeric 6.25% (KH), and negative group (KN). Groups BS, KH, and KN were given 35% ethanol (p.o) for 2 weeks. On the last day, body weight measurements were taken, and surgery was performed to examine the liver organ. The results showed weight loss in the KH group compared to the normal group. There was no change in body weight in the BS group. Macroscopic analysis of the liver organ showed no difference between groups N, BS, and KH, but there was liver swelling in the KN group. Based on the obtained results, it is concluded that black turmeric prevents weight gain due to excessive alcohol-induced, but not with beta-sitosterol. Beta-sitosterol and black turmeric can also prevent the hepatotoxic effects of alcohol consumption

**Keywords:** black turmeric, beta sitosterol, hepatoprotector, anti-obesity

**OPP63**

**Test of Physico-Chemical Properties and Optimization of *Moringa Oleifera* Leaf Extract Ointment Base**

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**Abstract**

*Moringa* leaves (*Moringa oleifera*) are plants that are easy to find and have many benefits in traditional medicine. There have been various studies related to activity and formulation in various preparations. Ointment is a semi-solid preparation that can be easily applied, including external medicine. This study aims to determine the physicochemical properties and optimization of a good base of water soluble based ointment preparation. Extraction of *Moringa* leaves using 70% ethanol after which a thick extract was obtained and tested for chemical physical properties so that it was found that the extract had a distinctive aroma, was brown in color, soluble in water and had a pH of 5.83. Then the ointment base optimization was carried out with F1 (50:50), F2 (60:40), and F3 (70:30) from PEG 400 and PEG 4000 with the addition of methylparaben as a preservative. Then the optimal formula concentration was obtained, namely F3 with a concentration of PEG 400 69.87% and PEG 4000 29.94%. The optimal base evaluation results are white, odorless, homogeneous, pH 4.6, viscosity 250 dpAs, and spreadability 5.25 cm.

**Keywords:** *Moringa oleifera*, Chemical Physical, Optimation

**OPP64**

**Clinical Observation on the use of Oral Thrush Medication for Adolescent**

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**Abstract**

Thrush is a disease of the oral mucosa that is often experienced by the public. There are various options in curing thrush such as using synthetic drugs containing antiseptics or analgesics. In healing canker sores itself can also use other alternatives such as the use of natural materials that have a function as analgesics. This study aims to determine the types of canker sore treatments used by adolescents today and the effectiveness of these treatments. The method of this study is observational with the number of respondents to date is 72 respondents selected based on inclusion criteria. The results showed that there were 22 respondents who used drugs containing vitamin c. There were also alternative treatments such as the use of salt, tomatoes, honey or traditional medicine. So it can be concluded that the most common treatment used by respondents is treatment containing vitamin c either in the form of drinks or in the form of chips, while the most effective treatment seen from the duration of thrush is the drug aloclair plus.

**Keywords:** Medicine, Thrush, Recurrent Aphthous Stomatitis, Effectiveness

OPP65

**The Relationship between Drug Information Services and the Knowledge and Level of Compliance of Hypertension Patients at the Kerang Community Health Center, Batu Engau District**

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**Abstract**

The World Health Organization (WHO) states that hypertension is an increase in systolic pressure greater than or equal to 160 mmHg and/or diastolic pressure equal to or greater than 95 mmHg. According to data obtained from the Kerang health center for the 2022-2023 period, the total prevalence at the health center was 5,393 with a total population of 12,902. One way to overcome hypertension is to increase patient knowledge and compliance with treatment by providing Drug Information Services. The aim of this research is to determine the characteristics, knowledge and level of compliance, determine drug information services and determine the relationship between drug information services and the knowledge and level of compliance of hypertensive patients. The method used is observational analysis with data collection using a prospective approach using medical record data and interview results. The results of the research on the characteristics of the majority of patients were in the late adult phase, 25.4%, 70.1% were female, 59.7% had elementary school education and 64% worked as housewives. The level of compliance of hypertensive patients is still low with a percentage of 59.80% and the level of knowledge of hypertensive patients is also in the low category with a percentage of 52.24%. Drug information services that are often provided only include the name of the drug, preparation, dosage, how to use, storage and side effects. and a significant value was obtained for the Knowledge Level with a correlation value of 0.344 and the Compliance Level with a correlation value of 0.649.

**Keywords:** Hypertension; Drug Information Services; Compliance and Knowledge

OPP66

**Anti-inflammatory and Analgesic Activity of Reticulated Python Fat Oil (*Malayopython reticulatus*) In Vivo**

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**Abstract**

Empirically python fat oil is used by local people in Miau Baru, Kongbeng, East Kalimantan to treat swelling and inflammation. The purpose of this study was to determine the physical characteristics, anti-inflammatory, and analgesic activities of the python fat oil in reducing pain and inflammation emerging. The methods that used for determining physical characteristics are organoleptic test, density test, viscosity test, pH test, and refractive index test. The method that used for determining anti-inflammatory activities is paw edema method which induce by lambda carrageenan and for analgesic activities using hot plate method. The results obtained are python oil has a yellow-orange color, rancid odor, and has a bland taste, has a density of 0.870 g/mL with a pH of 4.1. The viscosity of the python fat oil is 2.2 Pa.s with a refractive index of 1.463. Python fat oil contains petroselinic acid, hexadecanoic acid, and octadecanoic acid. Percent edema formed at 5% concentration was 0.33%, 10% concentration was 0.43%, and 15% concentration was 0.25%. Percent increase in survival time in analgesic testing with 5% concentration of 4.44%, 10% concentration of 3.87%, and 15% concentration of 3.11%. It was concluded that python fat oil has anti-inflammatory and analgesic activity.

**Keywords :** *Malayopython reticulatus*, Reticulated python, Anti-Inflammatory, Analgesic, Python Fat Oil

**Phytochemical Profile and Antibacterial Activity Test of Pineapple Peel Extract  
(*Ananas comosus* (L.) Merr)**

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**Abstract**

Pineapple (*Ananas comosus* (L.) Merr) is one of the plants that is widely consumed by the public. However, the use of pineapple fruit is mostly for the flesh of the fruit, while the skin of the fruit is thrown away and becomes waste. In fact, pineapple skin contains many chemical compounds that can be used because they have properties. The aim of this research was to determine the secondary metabolite compounds and antibacterial activity of pineapple peel. This research method is laboratory experimental research with qualitative and quantitative methods. The results showed that pineapple peel extract was positive for containing flavonoids, alkaloids, tannins and phenolics, while the negative results contained saponins, steroids and triterpenoids. Pineapple peel extract has moderate to very strong antibacterial activity with the diameter of the inhibition zone at concentrations of 5%, 10%, 15% and 20% respectively being 11.69; 14.88; 17.51; 22.01 mm against *Staphylococcus aureus* bacteria and 9.79;13.09;16.48;18.46 mm against *Propionibacterium acnes* bacteria.

**Keywords:** Pineapple peel, antibacterial, *Staphylococcus aureus*, *Propionibacterium acnes*

OPP68

**Antioxidant Activity Test Based on Differences in Avocado (*Persea americana* Mill.) Ripeness Levels Using the DPPH Method**

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**Abstract**

Avocado fruit (*Persea americana* Mill.) has activity as an antioxidant. This activity is strongly influenced by the metabolites contained in avocados. However, the formation of these active metabolites is greatly influenced by the level of fruit ripening. To the best of our knowledge there have been no scientific reports regarding the antioxidant activity of avocados with different levels of ripeness. So researchers want to know antioxidant activity based on differences in avocado ripeness levels. The avocados observed were unripe, tree-ripened and ripe avocados. Determination of antioxidant activity was carried out using the DPPH (2,2-diphenyl-1-picrylhydrazyl) method with a UV-Vis spectrophotometer at a wavelength of 516 nm. The results of antioxidant activity obtained were the IC<sub>50</sub> (inhibition concentration) value of raw avocado, which was 39.83 ppm, which was classified as a very strong antioxidant, tree ripe avocado, which was 30.29 ppm, which was classified as a very strong antioxidant, and ripe ripe avocado, namely amounting to 28.60 ppm which is classified as a very strong antioxidant. This shows that differences in fruit ripeness levels affect their antioxidant activity.

**Keywords:** Avocado, Antioxidant, DPPH

**Antibacterial Activity Test of Kersen Leaf Ethanol Extract (*Muntingia calabura* Linn.)  
against Bacteria *Propionibacterium acnes* and *Staphylococcus epidermidis***

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**Abstract**

Cherry leaves (*Muntingia calabura* Linn.) are a plant that grows widely in Indonesia. Cherry leaves are often used as medicine because they have many benefits, one of which is as an acne medicine. Cherry leaves contain flavonoids, saponins and tannins, these bioactive compounds are compounds that have the potential to be antibacterial. Therefore, this study aims to determine the antibacterial activity of ethanol extract of cherry leaves against acne-causing bacteria *Propionibacterium acnes* and *Staphylococcus epidermidis*. This research began with macerated extraction of cherry leaves using 70% ethanol solvent, then the extract obtained was tested for antibacterial activity using the agar diffusion method, variations in the concentration of the extract used were 5%, 7% and 10%. The research results showed that the best inhibitory zone for bacteria *Propionibacterium acne* and *Staphylococcus epidermidis* at a concentration of 10% with an average inhibition zone of 9.66 mm and 8.59 mm. So it can be concluded that the ethanol extract of cherry leaves with 70% ethanol solvent is able to inhibit bacterial growth *Propionibacterium acnes* and *Staphylococcus epidermidis*

**Keywords:** Cherry leaves, extract, antibacterial, *Prionibacterium acnes*, *Staphylococcus epidermidis*

**OPP70**

**Phytochemical Screening of Ethanol Extract and Ethyl Acetate Fraction of Onion Peel  
(*Allium cepa* L.)**

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**Abstract**

Onion (*Allium cepa* L.) are one of the plants that are widely used by Indonesian people, especially the tubers. Meanwhile, the onion peel is rarely used and becomes waste in society. This research aims to determine the phytochemical content of shallot skin extracts and fractions. The onion peel extract was macerated with 96% ethanol solvent and carried out liquid-liquid fractionation using ethyl acetate solvent then secondary metabolite testing was carried out. The research results showed that the extract yield was 7.4% and the fraction yield was 13.33%. The secondary metabolite content in the ethanol extract of onion peel is flavonoids, alkaloids, steroids, tannins and saponins, while in the ethyl acetate fraction it is flavonoids and alkaloids. Thus, the secondary metabolite content contained in the ethanol extract and ethyl acetate fraction of onion peel is flavonoids and alkaloids.

**Keywords:** *Allium cepa* L, Yield, Secondary Metabolites

OPP71

**Analysis of Total Flavonoid Content in Ethanol Extract of Kelakai Merah Leaves  
(*Stenochlaena palustris* (Burm F.) Bedd) Assisted by Ultrasonication**

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**Abstract**

Kelakai merah is a typical plant of Kalimantan that is widely used for medicinal purposes. This plant is reported to contain numerous secondary metabolite compounds, including phenolic and flavonoid compounds. This research aims to determine the flavonoid content of the ethanol extract of red kelakai leaves (*Stenochlaena palustris* (Burm F.) Bedd) extracted using ultrasonic assistance. Ultrasonic-assisted extraction was carried out with variations in time (5, 10, 15, 20, and 25 minutes) and temperature (20, 30, 40, 50, and 60°C). The extract obtained during the ultrasonic-assisted extraction process was then measured for flavonoid content using the spectrophotometry method. The research results showed the highest yield of the extraction process at a temperature variation of 60°C with a time of 20 minutes (20%). The highest flavonoid content was obtained at a temperature variation of 50°C with a time of 25 minutes (51.86 ppm quercetin in 100 mg of extract). This study provides evidence that ultrasonication can be used as an effective method for extracting total flavonoids from red kelakai leaves, which have the potential for applications in the development of herbal and pharmaceutical products based on this plant material.

**Keyword:** Kelakai merah, Extraction, Ultrasonic, Flavonoid.

**Phytochemical Screening and Antioxidant Activity of Ethanol Extracts of *Artocarpus integer* and *Artocarpus elasticus* Leaves**

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**Abstract**

The *Artocarpus* genus contains flavonoid chemicals. Flavonoids are polyphenolic compounds that are very important for human health because of their various pharmacological activities, from free radical scavengers that function as antioxidants to their potential as agents that fight various types of diseases. This study aims to determine the phytochemical content of the ethanol extract of *Artocarpus integer* and *Artocarpus elasticus* leaves, and the free radical reducing activity against DPPH IC<sub>50</sub> of the ethanol extract of *Artocarpus integer* and *Artocarpus elasticus* leaves. This research was carried out using a phytochemical screening method using reagents from the alkaloids, flavonoids, tannins, steroids/triterpenoids and saponins. The results of the phytochemical screening showed that the ethanol extract of *Artocarpus integer* and *Artocarpus elasticus* leaves contained alkaloid, flavonoid, tannin, triterpenoid compounds and the antioxidant activity was tested using a UV-Vis spectrophotometer at a wavelength of 517 nm. Analysis of antioxidant power was carried out by calculating the IC<sub>50</sub> value which is based on the percentage of DPPH (1,1 - Diphenyl-2-Picrylhydrazyl) free radical reduction by the test sample. Based on the IC<sub>50</sub> value calculation, the IC<sub>50</sub> value of the ethanol extract of *Artocarpus integer* leaves was 296.62 µg/mL and for the ethanol extract of *Artocarpus elasticus* leaves was 11.63 µg/mL. This shows that the ethanol extract of *Artocarpus elasticus* leaves has strong antioxidant activity compared to the ethanol extract of *Artocarpus integer* leaves.

**Keywords:** *Artocarpus integer*, *Artocarpus elasticus*, Antioxidants, Phytochemical screening

OPP73

**Thin Layer Chromatographic Profiles of Antioxidant Weeds: *Axonopus compressus* (Sw.) P. Beauv and *Digitaria ciliaris* (Retz.) Koeler**

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**Abstract**

Weeds are plant species that grow around cultivated crops and are often considered unwanted nuisance plants because they are considered harmful. These weeds, which are often considered a nuisance, can be utilised, especially as a source of medicine. Many studies have presented information on the benefits of weed plants as a source of treatment for degenerative diseases. This study aims to determine the secondary metabolite compounds contained in *Axonopus compressus* and *Digitaria ciliaris* weed plants through thin layer chromatographic (KLT) profiles. Extraction was carried out by maceration using methanol solvent and the yield value of *Axonopus compressus* extract was 3.01% and *Digitaria ciliaris* extract was 3.27%. The KLT profile test obtained secondary metabolite groups of *Axonopus compressus* and *Digitaria ciliaris* methanol extracts, namely flavonoids, alkaloids, steroids/terpenoids, saponins, and tannins. Qualitative test of antioxidant activity using DPPH method on KLT plates of methanol extracts of *Axonopus compressus* and *Digitaria ciliaris* obtained positive results of yellow stains with RF values of 0.6; 0.65 and 0.7 which indicate the presence of compounds that have antioxidant activity.

**Keywords:** *Axonopus compressus*, *Digitaria ciliaris*, thin layer chromatography, antioxidant

OPP74

## Method Validation and Determination of Caffeine Levels Using UV-Vis Spectrophotometry

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### Abstract

Caffeine is one of the alkaloids contained in coffee. Caffeine in coffee has clinically useful pharmacological effects, such as stimulating the central nervous system, relieving fatigue and drowsiness. This study aims to determine the validation of the analytical method for determining caffeine content in robusta coffee, where the sample used is coffee from Kalimantan and Sulawesi. The analytical method used to determine caffeine levels in coffee is UV-Vis spectrophotometry. Parameters in method validation are linearity, LOD and LOQ, precision, and accuracy. The validation test performed showed linear results where the value of  $r^2$  was 0,9927. The limit value of detection (LOD) obtained is 25,9344 and the value limit quantity (LOQ) obtained is 78,5893. The results of the accuracy test are expressed in %recovery, which is 106,7%. In the final stage a precision test was carried out where the RSD value obtained was 1,5937%. In determining the caffeine content, the caffeine content for Sulawesi coffee was 0,466 mg/g and for Kalimantan coffee was 0,591 mg/g.

**Keywords:** Caffeine, Spektrophotometry UV-Vis, Method validation

**Acute Toxicity of Ethanol Extract of Krokot (*Lygodium microphyllum*) Herb *In Vivo***

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**Abstract**

Krokot herb (*Lygodium microphyllum*) is an invasive plant that has pharmacological activities, but there is little research related to toxicity testing, so this study to determine the toxic effects ethanol extract of *Lygodium microphyllum* (ELM). Female mice (n=30) grouped into 6 groups, normal group (N), ELM 1 (300 mg/kg BW), ELM 2 (625 mg/kg BW), ELM 3 (1250 mg/kg BW), ELM 4 (2500 mg/kg BW), ELM 5 (5000 mg/kg BW). ELM was given on the 1st day, then continued observation of signs of toxicity, body weight, and mortality at 30, 60, 120, 180, 240 minutes and continued for 14 days. On the 15th day, kidney, spleen, stomach, heart, lung, intestine, brain, and liver collected and observed organ index. There is no sign of toxicity and mortality in the 14th day after ELM treatment. No significant difference in body weight changes of mice ( $p>0.05$ ). Organ index revealed the spleen in the ELM 2 taller than the normal control ( $p=0,024$ ), ELM 3 ( $p=0,006$ ) and ELM 4 ( $p=0,002$ ), while in the other organs not significantly different. Based on the result acute toxicity test, the ethanol extract of krokot herb is practically non-toxic with  $LD_{50} > 5000$  mg/kg BW.

**Keywords:** Krokot Herb, Acute Toxicity, *Mus Musculus*

OPP76

**Phytochemical Screening and Characterization of Candlenut Seed Oil (*Aleurites moluccana* L.)**

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**Abstract**

Candlenut is an intriguing plant, especially for its activities as a hair strengthener and its antibacterial properties. Various techniques can be employed to obtain candlenut oil, one of which is the roasting method. This method is cost-effective and easy to perform. However, there is currently no information on the phytochemical composition of candlenut oil produced using the roasting method. The aim of this research is to identify the groups of chemical compounds present in candlenut oil and to characterize candlenut oil. The research methodology for screening the phytochemicals in candlenut oil includes testing for alkaloids, flavonoids, steroids/terpenoids, tannins, phenols, and saponins. Characterization of candlenut oil includes organoleptic tests, water content analysis, acid value determination, saponification value determination, and density testing. The phytochemical screening results indicate that candlenut oil contains alkaloids, flavonoids, and steroids. The characterization results for candlenut oil reveal that it has a yellow color, smooth texture, and a distinctive candlenut oil scent. The water content is 0.01%, the acid value is 5%, the saponification value is 184.1825 mg KOH/g, and the density is 1.03 g/mL

**Keywords:** Candlenut, Phytochemical screening, Characterization

OPP77

**Phytochemical Screening and Thin-Layer Chromatographic Profile (TLC) of Kadamba Leaf Fraction (*Mitragyna speciosa* Korth.)**

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**Abstract**

Kratom or Kadamba leaves (*Mitragyna speciosa* Korth.) is an ethnic plant of Borneo that has been consumed by the community for generations as herbal medicine. The use of Kadamba leaves as traditional medicinal plants needs phytochemical screening to determine the metabolite compounds found in Kadamba leaf extract. This study aims to determine the secondary metabolite compounds contained in Kadamba leaf extract through phytochemical screening and TLC profiles found in Kadamba leaves. The study was conducted by maceration method using methanol, conventional column chromatography (CC), thin-layer chromatographic profile (TLC) and identification of secondary metabolite compounds. The results of the identification of methanol extract of Kadamba leaves contain secondary metabolite compounds including alkaloids, flavonoids, Saponins and tannins with a yield of 25.5%. TLC separation profile with the best separation in the combination eluents of chloroform : methanol (10:1) with an  $R_f$  value 0.68 which after spraying Dragendorff reagent positive contains alkaloid secondary metabolite compounds characterized by orange-red spots.

**Keywords :** Kadamba, *Mitragyna speciosa* Korth, secondary metabolite, TLC profile

**OPP78**

**Evaluation of Vaccine Storage and Management in West Kutai District Health Center**

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**Abstract**

Vaccines are biological products that are very fragile and easily damaged, so they require special handling in their management. Storage and management of vaccines in health service facilities is one of the factors that must meet the requirements for Good Medicine Distribution Methods in 2020, so that when distributing and managing vaccines there are no irregularities due to lack or inadequate health facilities. This research is qualitative research with observational data collection and is descriptive and evaluation in nature. The research used the 2020 Good Medicine Distribution Guidelines. Data collection was carried out by filling out a questionnaire and looking at documents related to the vaccine storage and management process. The samples in this study were Belusuh Community Health Center, Laming Community Health Center, Besiq Community Health Center, Dempar Community Health Center, Tering Community Health Center, Dilang Puti Community Health Center, Muara Pahu Community Health Center and Gunung Rampah Community Health Center. The research results obtained showed that overall, for personnel and training 98.8%, quite good category for buildings 65.2% and facilities 64%, good category for operations 80.7%, good category for maintenance 78.7% and good category for qualification, calibration and validation 89%. Based on the research results, it was found that the storage and management of vaccines in the West Kutai Regency health center was overall in the good category.

**Keywords:** Vaccine Management, Vaccine Storage, West Kutai Regency Health Center

OPP79

## Characteristics of Kersen Leaf Extract (*Muntingia calabura* L.) as a Candidate Active Ingredient in Sleeping Mask Gel Formulation

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### Abstract

Kersen plant (*Muntingia calabura* L.) is one of the plants that has antioxidant activity. The phytochemical content in kersen plants includes flavonoids, terpenoids, steroids, phenolics, saponins and tannins. This content makes kersen plants have high antioxidant activity and potential to be formulated in the form of sleeping mask gel. Antioxidants have an important role that can neutralize free radicals in the body, where these free radicals are closely related to accelerated aging and carcinogenic. Therefore, the antioxidant activity of kersen leaf extract was tested quantitatively using a UV-Vis spectrophotometer to determine the potential of kersen plants as a source of antioxidants. The results showed that kersen plant has characteristics of blackish brown color, solid form, distinctive aroma, with an extract pH of 4.29. The content of secondary metabolite compounds in it include flavonoids, alkaloids, and tannins. The results of the antioxidant activity test of kersen leaf extract showed an IC<sub>50</sub> value of 13.11242 and was included in the very strong category.

**Keywords:** Kersen Leaf, Extract, Antioxidant

OPP80

**Formulation of Hair Tonic Preparation Combination of Ethyl Acetate of Cempedak Leaves (*Artocarpus integer* (Thunb.) Merr.) and Methanol of Aloe Vera (*Aloe vera*) as Hair Growth.**

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**Abstract**

Hot air causes various kinds of hair problems, one of the problems that is often encountered is hair loss. The way to prevent/overcome hair loss is by treating your hair using hair tonic preparations. The combination of these two natural ingredient extracts contains flavonoid compounds in cempedak leaves which are known to help in the hair growth process, and aloe vera contains beneficial substances for reducing hair loss such as vitamin C and amino acids. The aim of this research is to create and find out the evaluation results of the hair tonic preparation formula combining cempedak leaf extract and *aloe vera*. This research is an experimental research, namely by formulating a hair tonic preparation. There are 3 variations of the formulation with a combined concentration of cempedak leaf ethyl acetate extract and *aloe vera* methanol extract, namely F1 10%, F2 20%, and F3 30%. With each additional ingredient: Propylene glycol, 96% Ethanol, Methyl paraben, Na-Metabisulfite, Menthol, and distilled water. The best hair tonic preparation formula is F3 with organoleptic evaluation results, a pH value of 4.58, a homogeneous preparation, a viscosity value of 5 Cps, and a dry time of 41 seconds. Apart from that, there is no irritation caused by the preparation. All evaluations carried out have fulfilled the requirements (SNI) 16-4955-1998 which have been determined, and show that the hair tonic formulation has the potential to grow hair.

**Keywords:** Hair tonic, hair loss, cempedak leaf extract, *aloe vera* extract

**OPP81**

**Analysis of the Use of DMARD and Anti-inflammatory Drugs in Patients Suffering from Rheumatoid Arthritis at Abdoel Wahab Sjahranie Hospital, Samarinda**

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**Abstract**

Rheumatoid arthritis (RA) is an autoimmune disease that causes chronic inflammation of the joints that is permanent. RA treatment is aimed at treating pain and inflammation and stopping joint damage. The aim of this study was to determine the characteristics, treatment profile and use of DMARD and anti-inflammatory drugs using descriptive analysis methods in inpatients at RSU Abdoel Wahab Sjahranie Samarinda in the period 2019 - July 2023. The results of this study obtained data on 30 patients from 2019 to July 2023. Based on the data obtained, the largest percentage is female (83.3%), aged 46-55 years (46.7%), and the highest level of education is elementary school (36.7%). The treatment profile showed that the corticosteroid group was (52.2%), the DMARD group was (28.2%) and the non-steroid group was (19.6%). The largest dosage form is tablets at 56.5%, with the most administered orally at 56.5% and singly or in combination having the same percentage, namely 46.7%. The results of this study showed that the use of DMARD and anti-inflammatory drugs was 90% correct for patients, 100% correct for indications and 100% of doses.

**Keywords:** Rheumatoid Arthritis, DMARD, Antiinflammatory

OPP82

**Formulation of Cookies Combination of Yellow Pumpkin (*Cucurbita moschata*) and  
Kepok Banana Peel Flour (*Musa acuminata x Musa balbisiana*) for Type 2 Diabetes  
Mellitus Sufferers**

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**Abstract**

Diabetes mellitus (DM) is a disease characterized by high levels of sugar in the blood. Providing foods high in fiber is known to control blood sugar levels in diabetes mellitus sufferers. Yellow pumpkin fruit and kepok banana peels are a food choice with a high fiber content so they can be an alternative snack for diabetes mellitus sufferers through processed cookies. This research aims to determine the optimal cookie formulation and determine the evaluation, namely water content, ash content, fiber content, organoleptic and hedonic. The results obtained were 3 different FI formulations (0,5:1,5 pumpkin: kepok banana peel); F2 (yellow pumpkin 1:1: kepok banana peel); F3 (1,5:0,5 yellow pumpkin: kepok banana peel) with respective water content values 0,472%; 0,847% and 0,822%. The ash content values are 5,377%; 4,555% and 4,877%. The respective fiber content values are 33,8 g; 35,2 g, and 51 g. The best hedonic test value is F2 with a percentage value of 72.67% with organoleptic characteristics of brown color, no banana peel aroma, sweet taste and crunchy texture. This shows that the cookie formula made can be a snack because it meets the fiber content and hedonic test value (liking).

**Keywords:** Pumpkin, Kepok Banana Peel, Diabetes Mellitus

**OPP83**

## **Optimization of HPMC with Various Concentrations as a Gel Base**

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### **Abstract**

Gel base optimization is an effort made to determine the best base formula for making gel. The aim of this research is to determine the best basis for several variations of gelling agent concentration. The gel base is made in three formulas with three different HPMC concentrations, namely F1: 1%, F2: 1,5%, and F3: 2%. Optimization of the gel base was carried out by observing physical evaluations including organoleptics, adhesion, spreadability, pH and viscosity which were carried out for 28 days, which were observed every week. The physical evaluation data was then analyzed descriptively. Gel base with a concentration of 1,5% (F2) is the optimum base based on the results of physical evaluation. The selected gel base has a clear color, slightly thick texture, and a typical gel odor, spreadability is in the range of 5-7 cm, adhesive power is >4 seconds, pH is in the range of 4,5-6,5 and viscosity is in the range of 6-50. The results of the physical evaluation show that a base with a concentration of 1.5% meets the requirements as a good base.

**Keywords:** optimization, base, gelling agent

OPP84

**Antibacterial Activity Test of Ethanol Extract of Matoa (*Pometia pinnata*) Bark Against Acne-Causing Bacteria**

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**Abstract**

Matoa (*Pometia pinnata*) is a plant that is widely used as traditional medicine, including as a medicine for wounds, smallpox, infections, diabetes and boils. This study aims to determine the yield, secondary metabolites and antibacterial activity of matoa stem bark extract against the bacteria *Staphylococcus aureus*, *Staphylococcus epidermis* and *Propionibacterium acne*. The research results showed that matoa bark extract had a yield value of 24.76%. Matoa bark contains flavonoids, saponins, tannins, phenolics and triterpenoids. In the antibacterial activity test, matoa stem bark extract was able to inhibit the bacteria *Staphylococcus aureus*, *Staphylococcus epidermidis* and *Propionibacterium acne* at concentrations of 2.5%, 5%, 10% and 20%. The best antibacterial activity of matoa stem bark ethanol extract was obtained at a concentration of 20% with an average zone of inhibition of 13.38 mm (*Staphylococcus aureus*), 13.83 mm (*Staphylococcus epidermidis*), and 14.186 mm (*Propionibacterium acne*).

**Keywords:** Matoa Stem Bark (*Pometia pinnata*), Antibacterial, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Propionibacterium acne*.

OPP85

## Formulation of Facial Serum Preparations from Edible Bird's Nest Extract

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### Abstract

The swallow's nest (Edible bird's nest) is included in the Apodidae family. Swallow's nest contains several proteins and amino acids, glutathione and antioxidants. Swallow's nest also contains EGF (Epidermal grow factor) which functions to regulate cell growth and development. Facial serum is a preparation with a high concentration of active substances and low viscosity, which can deliver a thin film of active ingredients to the skin surface. The results of this study aim to examine the stability of facial serum formulations from edible bird's nest extract. The results of this research produced facial serum preparations. The results of the physical testing showed that the swallow's nest extract facial serum preparation looked stable without any sediment.

**Keywords:** (*Edible bird's nest*), facial serum, stability test.

OPP86

**Phytochemical Screening and Optimization of Garlic Peel (*Allium Sativum* L.) Ethanol Extract Gel Spray Base as Anti-Acne**

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**Abstract**

Spray gel is topical pharmaceutical preparations that can last long when sprayed on the skin. Because without physical contact, this preparation can reduce waste and the risk of developing skin diseases. The purpose of this study are determine the secondary metabolite content of garlic skin extract and obtain the optimal spray gel base. This study begins with the extraction of samples using 70% ethanol. Then qualitative phytochemical screening was conducted. Spray gel base optimization was carried out by varying the concentration of carbopol where F1(0,1%), F2(0,2%) and F3(0,3%) were then evaluated. The results of this study are garlic skin extract contains alkaloids, flavanoids, saponins and tannins. While the results of the base evaluation are in the organoleptic test all bases form are slightly cloudy in color, odorless and liquid, not sticky and has no air bubbles. All base formulas have been homogeneous, attached and spread, the range of the pH are 8.67-9.80 and the results of the viscosity test is range of average viscosity are 33.33-780 dPa.s. In this study, it can be concluded that garlic skin extract contains alkaloid, flavanoid, saponin and tannin that have potential as anti acne and the optimum carbopol concentration for spray gel base is 0,2%.

**Keywords:** Phytochemical Screening, *Allium Sativum* L., Spray Gel, Anti Acne

OPP87

*Study of Secondary Metabolites and Antibacterial Potential of Banitan Leaves  
(Monocarpia kalimantanensis)*

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**Abstract**

The Banitan plant (*Monocarpia kalimantanensis*) is a plant in the *Annonaceae* family that can be found in Samboja, East Kalimantan. The aim of this research is to identify and determine the content of secondary metabolite compounds and antibacterial activity contained in banitan leaves. The method used for antibacterial testing was well diffusion and the positive control used was Amoxicillin. The results obtained from this research were a yield with a value of 12.35%, then in secondary metabolites there were alkaloids, triterpenoids, flavonoids, phenolics, saponins and tannins. Antibacterial testing using well diffusion obtained the best results against *Escherichia coli* at a concentration of 15%. And for *Staphylococcus aureus* bacteria, the best concentration was found at 25%.

**Keywords** : Banitan (*Monocarpia kalimantanensis*), phytochemicals, yield, antibacterial, well diffusion

OPP88

**Characteristics and Patterns of Analgesic Treatment in *Post Sectio Caesarea* at RSIA  
Jimmy Medika Borneo Samarinda**

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**Abstract**

Sectio caesarea is a medical surgical procedure to assist with childbirth that cannot be carried out normally due to maternal health problems or the condition of the fetus. One of the impacts of this surgical procedure is the emergence of pain which the patient should not feel because it will interfere with overall recovery process. This can be overcome by administering analgesic therapy. Therefore, this study aims to determine the characteristics and patterns of analgesic treatment in post caesarean section patients at RSIA Jimmy Medika Borneo. So can be used as a basis for assessing rationality of analgesic therapy in post caesarean section patients. The research was conducted retrospectively based on medical records. The sampling technique used a purposive sampling method and a sample size of 72 patients was obtained. The research results showed that 32 patients (44.4%) were included in the high risk pregnancy category, the most gestational age was 36-41 weeks (52.7%) and 31 patients (43.05%) were working actively. The Highest analgesic use was Ketorolac 30mg, as 32 (28%) The most common route of administration was intravenous at 38.3%. Meanwhile, the highest decrease in pain scale was 1 which occurred in 26 patients (36%).

**Keywords:** Analgesic, *Post Sectio Caesarea*.

**Formulation and Evaluation of Powdered Shampoo with the Active Ingredient of  
Candlenut Seeds (*Aleurites moluccana* L.)**

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**Abstract**

Powdered shampoo is an alternative form of shampoo that is available in powder or powder form. In the research, innovation was carried out in making powdered shampoo using the active ingredient candlenut oil. Candlenut is a plant that is no stranger to Indonesia. This plant has the property of strengthening hair from root to tip and the ability to maintain healthy hair. The powdered shampoo formulation containing the active ingredient candlenut oil is made in three concentration variations, namely F1 5%, F2 10%, and F3 15%. Evaluation of powdered shampoo with the active ingredient candlenut kernel oil includes organoleptic tests, pH tests, foam height tests, water content tests and smoothness tests. The best formula is in formula 2 with research results showing that the powdered shampoo has a slightly yellowish white color and a distinctive hazelnut odor, pH 7.19, water content 0.2979%, foam height 2.1 cm, fine grade including semi-coarse powder. Based on these data, the F2 powder shampoo formula meets SNI parameters as a shampoo compared to other formulas.

**Keywords:** powder shampoo; candlenut oil; formulation; evaluation

OPP90

**Antiaging Activity Test In Vitro Extracts and Fractions of Dayak Onion Bulbs  
(*Eleutherine bulbosa* [Mill.] Urb.) Using the Tyrosinase Inhibitor Method**

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**Abstract**

Dayak onion (*Eleutherine bulbosa*) has the ability to inhibit the enzyme tyrosinase. Tyrosinase enzyme plays a role in melanin production in the skin, inhibition of this enzyme can help prevent hyperpigmentation on the skin. This study aims to test tyrosinase enzyme inhibitors on water extract, ethanol extract, Ethyl acetate fraction, N-Hexane fraction, and water fraction from water extract as well as N-Hexane fraction, Ethyl Acetate fraction, and water fraction from ethanol extract. The method to obtain water extract is using the Microwave assisted extraction (MAE) method, while some fractions are obtained by fractionation method. Tests were performed using L-tyrosine and arbutin substrates as positive controls by absorption measurement using a microplatereader at 470 nm. The research results indicate that the best tyrosinase enzyme inhibition activity is produced by the n-hexane fraction of the water extract with an IC<sub>50</sub> value of 07.88, followed by the ethyl acetate fraction of the ethanol extract - water extract with IC<sub>50</sub> values ranging from 11.39 to 52.37, categorized as strong for all samples compared to arbutin as the positive control with an IC<sub>50</sub> value of 68.94 µg/mL.

**Keywords:** Antiaging, thyrocination, Dayak onion bulbs (*Eleutherine bulbosa*)

OPP91

**Formulation and Evaluation of Loose Powder With Kepok Banana Peel Waste (*Musa paradisiaca* L.) as Natural Dyes**

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**Abstract**

Loose powder is one of the most widely and frequently used cosmetic preparations. This research aims to create a loose powder formula containing banana peel extract as a natural colouring. Banana peel extract is formulated in loose powder preparations with concentrations of 3% and 4%. Evaluation of the preparation is carried out by observing changes in organoleptic parameters, homogeneity, adhesion and moisture. The stability test was carried out by observing changes in organoleptic parameters of loose powder when stored at room temperature for 28 days, cycling test for 6 cycles and colour stability test using UV light. The results of this research show that the base formula F0, loose powder F1 and F2 have a white to yellowish brown colour, homogeneous, adhesive power respectively, 90%; 91.3%; and 93.3% and moisture test respectively, 1.8%; 2%; and 3%. At room temperature storage for 28 days, cycling test for 6 cycles, and UV light stability test did not show any changes in organoleptic and homogeneity. The results of the irritation test showed that loose powder F0, F1, and F2 did not cause irritation. Conclusion: Banana peel extract loose powder meets the physical properties requirements for all test parameters.

**Keywords:** Kepok banana peel, colouring, loose powder, stability

**Formulation of Hair Dye Gel From Roselle Flower (*Hibiscus sabdariffa* L.) Extract**

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**Abstract**

Hair dye is a cosmetic preparation used to color hair. Hair dyes on the market use synthetic dyes as coloring agents, the purpose of this research is making hair dye gel preparations from roselle flower extract and finding out the effectiveness and stability of hair color from roselle flower extract hair dye gel preparations. The roselle flower extract used in the hair dye gel preparation formula is 3%, 5%, and 7%. This research was carried out using a hair dye gel preparation formulation, then evaluating the physical characteristics which included organoleptic tests, homogeneity, pH and viscosity. Next, the color effectiveness and stability of the hair color were tested against washing and light. The research results showed that the hair dye gel preparations from roselle extract had a reddish brown color, had a thick to liquid texture, and had a distinctive extract aroma. The viscosity value hair dye gel is in the range of 186.67 – 46.67 dPa.s. The pH value of hair dye gel is in the range of 5.09 – 6.99. The effectiveness of hair dye produces very light blonde to blonde colored hair. Hair color is stable over several washes and against 366 nm UV light

**Keywords:** Roselle flower, hair, hair dye, gel preparation

**Formulation of Purple Sweet Potato *Cookies (Ipomoea batatas L.)* and Kersen Leaves (*Muntingia calabura L.) Cookies As a Interlude Food***

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**Abstract**

Purple sweet potato (*Ipomoea batatas L.*) is a tuber plant. Purple sweet potato contains secondary metabolite compounds, namely anthocyanins, which can act as antioxidants. Apart from that, purple sweet potato contains quite a lot of dietary fiber which the body needs. Cherry leaves (*Muntingia calabura L.*) are a neotropical plant, cherry leaves contain secondary metabolite compounds, namely tianine, riboflavin, niacin, flavonoids, apart from that, cherry leaves have high levels of fiber. The content contained in purple sweet potatoes and cherry leaves can support the manufacture of snacks in the form of cookies. Cookies are sweet pastries with a less dense and relatively crunchy texture. This purple sweet potato and cherry leaf cookies product can be a valuable product. Efforts that can be made to improve this product are by conducting tests in the form of organoleptic tests from several formulas that have been determined in the form of f1, f2 and f3. This organoleptic test was carried out with 30 respondents to obtain the best formula that could be accepted by consumers.

**Keywords :** Purple sweet potato, Cherry leaves, *Cookies*, Organoleptic

OPP94

**Formulation and Evaluation of Physical Properties of Lipstick Preparations from Red Spinach (*Amaranthus Tricolor*) Extract as a Coloring Agent with Paraffin Wax and Beeswax Base**

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**Abstract**

A good lipstick should be easy to use, not irritate, not sticky, not dry and can maintain color on the lips. Color substances and physical form are important ingredients that make up lipstick. Betacyanin in red spinach (*Amaranthus tricolor*) extract has potential as a natural dye. The physical properties of lipstick are determined from the wax base. The bases often used in making lipstick are bees wax and paraffin wax then combined with lanolin as an emollient. This research aims to determine the effect of the combination of bees wax and paraffin wax on the physical properties of lipstick, as well as to determine the optimum formula composition. Red spinach leaves were extracted using the maceration method using 70% ethanol and citric acid and then thickened. Thirteen basic lipstick formulas resulted in an optimum formula obtained using the Simplex Lattice Design method from the results of physical evaluations, the results were analyzed using design expert 13 software, using 10% red spinach extract with a variety of paraffin wax, beeswax and lanolin bases tested for physical properties including organoleptic, homogeneity, test pH, hardness and spreadability. Stability was tested for 4 weeks at room temperature and an irritation test was carried out. The red spinach extract lipstick formula contains 5.34 g of lanolin, 1.994 g of bees wax and 1.665 g of paraffin wax. Organoleptics, hardness, and pH are relatively stable. The lipstick formula qualitatively does not irritate the skin.

**Keywords:** Lipstick, *Amaranthus tricolor*., SLD, Stability, irritation test

OPP95

**The Influence of Health Education and Reminder Messages on Effectiveness Therapy Patient Diabetes Mellitus at Segiri Health Center Samarinda**

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**Abstract**

Diabetes mellitus still a major health problem in society. This occurs because the effectiveness of therapy decreased due to the perception that "antidiabetic drugs consumed every day cause kidney failure" circulating among the public and lack of knowledge about the disease they suffer from. Health education accompanied by reminder messages can be strategic choice in increasing patient knowledge and compliance with medication use which is associated with increasing the effectiveness of therapy in DM patients. This study aims to determine the effect of providing health education using videos and reminder messages on patient knowledge and the effectiveness of therapy seen from blood sugar levels and DKQ-24 questionnaire scores. The research method used was quasi-experimental with purposive sampling and obtained 50 respondents who divided into two groups, namely treatment group and control group. The results of Mann Whitney test pretest and posttest knowledge in both groups had significance value of  $< 0.001$  ( $p < 0.05$ ) and results of therapy effectiveness had significance value of 0.027 ( $p < 0.05$ ), where there was a significant difference between two groups. So, from these two results it can be concluded that health education and reminder messages influence knowledge and effectiveness therapy for DM patients.

**Keywords:** Education, Reminder, Effectiveness therapy, Diabetes

OPP96

## Phytochemical Screening, Nanoparticle Characterization, and Literature Review of Nanoparticles As antihyperglycemic

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### Abstract

Dayak onions are a typical Kalimantan plant that has the potential as an antihyperglycemia. However, the dose used for Dayak onions is quite large and can cause problems in treatment, so it is hoped that making it into nanoparticles can increase its activity with a fairly small dose. This research aims to determine the secondary metabolites of Dayak onion extract and determine the characteristics of Dayak onion extract nanoparticles. The method used in this research was extraction using the maceration method, then secondary metabolite testing of Dayak onion extract was carried out, the results of which contained alkaloid, flavonoid, saponin compounds with an extract yield of 1.18%. The method for making nanoparticles is carried out using the ionic gelation method with variations in chitosan concentration of 0.1%, 0.2%, 0.3%, 0.4%. The results obtained were particle sizes of 376.6 nm, 354.7 nm, 480.1 nm, 654 nm. pH value of 2.91; 3.27; 3.67; 3.78. The literature review method used is a systemic review by summarizing several journals online through a journal search website database. The results of the journal analysis were that nanoparticles had a better antihyperglycemic effect and the results obtained were not much different from the positive control used.

**Keywords:** Bawang dayak, nanoparticles, antihyperglycemia.

OPP97

**Isolation and Characteristics of Endophytic Fungi from Tahongai Leaves (*Kleinhovia hospita* L.)**

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**Abstract**

Tahongai (*Kleinhovia hospita*) is a distinctive plant native to Kalimantan, reported to possess antibacterial activity. This activity is likely attributed to secondary metabolites within it, such as alkaloids, flavonoids, and terpenoids. Endophytic fungi are recognized as a source of secondary metabolites, residing within plant tissues, including Tahongai leaves. However, scientific reports on endophytic fungi in Tahongai leaves are still limited. This study successfully isolated and characterized four endophytic fungi from Tahongai leaves with the isolates coded as IJHP1, IJHP2, IJH1, and IJCH1. The characteristics of these fungi were identified both macroscopically and microscopically, indicating that the four isolates are distinct fungi. These findings confirm that Tahongai leaves serve as a potential source of endophytic fungi that can be further explored and developed.

**Keywords:** *Kleinhovia hospita*, endophytic fungi, isolation, characteristics

OPP98

## Identification of Potentially Inappropriate Medications (PIMs) Using Beers and STOPP Criteria in Geriatric Cardiovascular Patients at Inche Abdoel Moeis Regional Hospital

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### Abstract

Geriatric patients are at greater risk of receiving polypharmacy therapy due to the illnesses and complications they suffer, making them more susceptible to potentially inappropriate use of medication which causes the risk of drug side effects. This research was conducted to determine patient characteristics and identify the occurrence of Potentially Inappropriate Medication (PIM's) in inpatient geriatric patients with a diagnosis of cardiovascular disorders using the Beers and STOPP criteria at Inche Abdoel Moeis Regional Hospital in 2022. This research is an observational study with retrospective data using purposive sampling data collection techniques. The research results obtained from 87 patient data showed that the characteristics of geriatric patients were that the majority of genders were female, 51 patients (59%), with an age range of 65-74 years, 64 patients (74%), the highest educational history of patients was high school, 25 patients (25%) with the majority of patients' occupation being housewives, 45 patients (52%), 62 patients (71%) who were hospitalized for a long time in the range of 1-5 days, with the highest diagnosis being cardiovascular disease, dominated by stroke, 52 patients (60%) and the most common comorbidity was hypertension in 34 patients (33.66%). Based on the Potentially Inappropriate Medications (PIM) analysis using the Beers criteria, 13 incidents were found from 72 cases (18.06%) and based on the STOPP criteria, from 48 cases, 19 incidents were found (39.58%).

**Keywords:** Geriatrics, Beer, STOPP, Polypharmacy, Treatment That May Be Inappropriate

OPP99

**Isolation and Characterization of Endophytic Fungi from Leaves of (*Cnestis palala* (Lour.) Merr)**

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**Abstract**

Belimbing hutan (*Cnestis palala* (Lour.) Merr) is recognized as a distinctive plant in East Kalimantan, commonly used by the local community for treating internal diseases, postpartum conditions, abdominal pain, and urinary tract disorders. The benefits of belimbing hutan cannot be separated from the compounds contained in it. However, the limited population makes exploration of this plant hampered. Endophytic fungi are an interesting alternative for exploring secondary metabolites from this plant. To date, there have been no scientific reports on endophytic fungus of belimbing hutan. This research successfully isolated and characterized three isolates from the leaves of belimbing hutan with isolate codes IJP1 exhibiting white colonies with a cotton-like texture, IJP2 colonies are white and fiber-shaped, IJH1 with green colonies accompanied by concentric circles. The diversity of endophytic fungi in belimbing hutan leaves opens up possibilities for discovering potential compounds from the extracts of these fungi.

**Keywords:** *Cnestis palala* (Lour.) Merr, Endophytic Fungi, Isolation, Characterization

**Characterization and Effect of Chitosan Composition on the Size Stability of Dayak Onion (*Eleutherine americana* Merr.) Extract Nanoparticles using the Ionic Gelation Method**

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**Abstract**

Dayak onion (*Eleutherine americana* (Aubl) Merr.) ethanol extract contains flavonoid secondary metabolite compounds which have the potential to have antifungal activity. One effort that can be made to increase antifungal activity is to formulate nanoparticles using chitosan and sodium tri-polyphosphate (NaTPP) polymers. This research aims to determine the formulation and characterization of Dayak onion extract nanoparticles and determine the effect of chitosan composition on particle size stability. Dayak onion extract is formulated into nanoparticle preparations with varying concentrations of formula 1 (chitosan 0.1% and Na-TPP 0.05%), formula 2 (chitosan 0.2% and Na-TPP 0.05%) and formula 3 (chitosan 0.3% and Na-TPP 0.05%) using the ionic gelation method. Then the particle size and polydispersion index were determined using a particle size analyzer, and zeta potential. The results of the characterization of Dayak onion extract nanoparticles in F1, F2 and F3 have sizes of 376.6 nm, 354.7 nm and 480.1 nm respectively with a polydispersion index of 1.666, 1.702, 0.949 and 1.585 respectively and a zeta value. potentials of -20.8 mV, 11.2 mV, 23.7 mV, and 29.5 mV, respectively. On day 7, F1, F2 and F3 had particle sizes of 311.2 nm, 600.2 nm and 501.1 nm, respectively. Based on the results of the research that has been carried out, it can be concluded that the stability of the particle size in each sample shows that the nanoparticles still maintain their particle size within the nanometer size range, namely  $\pm 300$ -600 nm. There is no large increase in particle size, which means that there is no aggregation in the sample which results in an increase in particle size.

**Keywords:** Dayak onion (*Eleutherine americana* (Aubl) Merr.), antifungal, nanoparticles, ionic gelation.

**Case Reports: Pharmaceutical Care of the Use of Anti-Hypertension in Hypertension Patients With and Without Complications**

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**Abstract**

Pharmaceutical care is a form of optimizing the role performed by pharmacists in patients in conducting therapy to improve the degree of patient health. The use of antihypertensive drugs requires further education and monitoring to optimize the results of therapy because hypertension has high risks of causing other complications and has a fairly high mortality. This case report aims to show four cases of the use of antihypertension drugs in hypertensive patients with and without complications. The method used is retrospective data collection then analyzed with the SOAP (*Subjective, Objective, Assessment and Plan*) method. The results showed the pharmaceutical care needs to be delivered by pharmacists and understood by patients to improve patient compliance, maximize therapeutic effects and minimize side effects.

**Keywords:** Pharmaceutical care, case report, hypertension, complications

OPP102

**Phytochemical Screening of Ethanol 96% Cayenne Pepper Leave (*Capsicum frutescens* L.)**

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**Abstract**

Cayenne pepper leaves (*Capsicum frutescens* L.) Cayenne pepper leaves (*Capsicum frutescens* L.) are a plant that has many benefits, one of which is in the health sector. Scientifically, cayenne pepper leaves act as an antioxidant, antimicrobial and can prevent diabetes. This activity is caused by the chemical compounds contained in the plant. In this study, phytochemical screening of 96% ethanol extract of cayenne pepper leaves was carried out to determine the groups of compounds contained in the extract. This research was carried out by extraction and phytochemical screening. The extraction process was carried out using 70% ethanol solvent using the maceration method. From the extraction results, 221.5 grams of thick extract was obtained so the yield value was 31.57%. The results of the phytochemical screening test on the 96% ethanol extract of cayenne pepper leaves (*Capsicum frutescens* L.) showed that the 96% ethanol extract of cayenne pepper leaves contained alkaloids, saponins, tannins, terpenoids and flavonoids.

**Keywords:** Cayenne pepper leaves (*Capsicum frutescens* L.), phytochemicals, yield value, antimicrobial

OPP103

## Optimization of Making Dayak Onion Extract Nanoparticles (*Eleutherine bulbosa* (Mill.) Urb.) Based on Chitosan Concentration

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### Abstract

Dayak onion extract (*Eleutherine bulbosa* (Mill.) Urb.) is known to have strong antibacterial activity so it has the potential to be developed into a nanoparticle delivery system. Chitosan polymer has the advantage of delivering active substances because it has good stability, low toxicity, and the preparation method is quite simple. This research aims to determine the effect of variations in chitosan–tripolyphosphate (TPP) concentration on the size and polydispersity index of nanoparticles. Dayak onion extract was formulated in the form of nanoparticles using the ionic gelation method with varying concentrations of chitosan polymer: tripolyphosphate 0.1%, 0.2%, 0.3% and 0.4%. Test parameters include determining the size and polydispersity index of nanoparticles using a particle size analyzer. The results showed that F1, F2, F3, and F4 had particle sizes of 376.6 nm, 354.7 nm, 480.1 nm, 654.0 nm, respectively, and a polydispersity index of 1.666; 1,702; 0.949; and 1,585 with heterogeneous size distribution. Based on the results of research that has been carried out, it can be concluded that Dayak onion extract can be formulated in nanoparticle sizes with varying physical characteristics depending on the concentration of chitosan and tripolyphosphate used.

**Keywords:** Dayak onion (*Eleutherine bulbosa* (Mill.) Urb.), nanoparticles, chitosan, tripolyphosphate, ionic gelation

OPP104

**Characterization of Functional Food Biscuits from Corn Flour (*Zea mays* L.) and *Bee Pollen***

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**Abstract**

Corn (*Zea mays* L.) is a plant that is included in the tuber category. Corn flour contains a water content of 8.15135%; carbohydrates 55.069%; fat 2.524%; ash content of 0.394% and protein of 11.641%. Bee pollen is a product derived from bees that contains many beneficial compounds such as proteins, lipids, carbohydrates and other micronutrients. The protein content in bee pollen flour is 11.60% and the antioxidant content reaches 68%. Biscuits are a practical food because they can be eaten at any time and have a relatively long shelf life. This research aims to determine the characteristics of biscuits from corn flour (*Zea mays* L.) and bee pollen based on water content parameters using the thermogravimetric method and hedonic tests based on the level of liking which includes very like, like, neutral, dislike, dislike. The research results showed that the water content in F1 was 0.55%, F2 1.56 and F3 1.62%. Based on the hedonic test, it was found that formulas F1 and F2 were more preferred than F3 with an overall rating reaching 4.1 out of 5 with a like percentage of 50% and 63.33% and a very like category of 43.3% and 33.33%.

**Keywords:** Biscuits, Corn Flour, Bee Pollen, Hedonic Test, Water Content Test

OPP105

**The Effect of Several Varying Chitosan Concentrations on the Zeta Potential of Dayak Onion (*Eleutherine bulbosa*) Extract Nanoparticles**

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**Abstract**

Dayak onion bulb extract (*Eleutherine bulbosa*) contains alkaloids, flavonoids and saponin which have antioxidant and antidiabetic activity. The bioavailability of dayak onion bulb extract can theoretically be increased by reducing the particle size of the extract into nanoparticles. The zeta potential value is one of the factors that influences the surface charge and stability of nanoparticles. This research aims to determine the effect of several variations in chitosan concentration on the zeta potential of dayak onion extract nanoparticles. Dayak onion extract nanoparticle formulation was carried out with 4 variations of chitosan concentration, namely 0,1%, 0,2%, 0,3%, and 0,4%. The results of the zeta potential value for each chitosan concentration are -20,8 mV, 11,2 mV, 23,7 mV, and 29,5 mV.

**Keywords:** extract, dayak onion, nanoparticles, zeta potential.

**OPP106**

**Identification of Potentially Inappropriate Medication (PIMs) Using Beers and STOPP Criteria in Geriatric Patients with Gastrointestinal Diagnosis at Abdul Wahab Sjahranie Samarinda Hospital**

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**Abstract**

The Beers and STOPP criteria are criteria used to identify the possibility of inappropriate treatment including drugs that should be avoided and used in patients aged over 65 years. These two criteria are a reference in evaluating the prescription of potentially inappropriate medications or Potentially Inappropriate Medications (PIM's) in geriatrics. The aim of the research is to determine geriatric characteristics, treatment profiles in prescribing and PIM's within the scope of the Beers criteria and STOPP criteria in geriatric patients with a gastrointestinal diagnosis who are hospitalized at Abdul Wahab Sjahranie Hospital, Samarinda. This research used an observational research design with data collected retrospectively and analyzed descriptively. The research results obtained from 80 patient data showed that geriatric patients were predominantly female as many as 47 patients (59%) with young elderly aged 65 - 74 years as many as 53 patients (66.25%) with the most dominant diagnosis being diarrhea and dyspepsia as many as 36 patients (42.85%) and the most common comorbidity was hypertension in 17 patients (30.35%). The most dominant use of medication in geriatric patients was antiemetic therapy, 64 patients (80%). Based on PIM's analysis using the Beers and STOPP criteria, no events were found using the Beers criteria and of the 23 cases, 1 event was found using the STOPP criteria.

**Keywords:** Geriatric, Beers Criteria, STOPP Criteria, Treatment That May Be Inappropriate

OPP107

**Glycemic Index Study of Rice Combination of Salam Leaf (*Syzygium polyanthum*) and Kitchen Lemongrass (*Cymbopogon citratus DC*)**

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**Abstract**

Bay Leaves (*Syzygium polyanthum*) and Kitchen Lemongrass (*Cymbopogon citratus DC*) are Indonesian spices that are widely used as cooking spices. Bay leaves and lemongrass contain secondary metabolites, namely, alkaloids, flavonoids, saponins, and tannins. The phenolic compounds in bay leaves and lemongrass have the potential to be anti-diabetic. Bay leaves are known as traditional medicine, namely for lowering cholesterol, treating hypertension, and diarrhea, and treating diabetes mellitus. Lemongrass is also known as a traditional medicine, namely for lowering cholesterol, increasing immunity, and also as an antidiabetic.

**Keywords:** Bay Leaves, Kitchen Lemongrass, Antidiabetic

OPP108

**Formulation of Combination Hair Conditioner from Rice Straw (*Oryza sativa* L.) and Hibiscus Flower Extract (*Hibiscus rosa-sinensis* L.)**

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**Abstract**

Dull or unruly hair is a problem that most people around the world experience. Hair conditioner are used on hair after shampooing and are intended to soften, shine, and repair damaged hair. The research objectives to be achieved in this study are the combination of rice straw (*Oryza sativa* L.) and hibiscus flower extract (*Hibiscus rosa-sinensis* L.) can be formulated into hair conditioner preparations and to find out which formula shows the best hair conditioner preparation formulation. The results of the study obtained a hair conditioner preparation of a combination of rice straw (*Oryza sativa* L.) and hibiscus flower extract (*Hibiscus rosa-sinensis* L.) seen from the results of evaluating the physical characteristics of reddish brown, thick, has a distinctive aroma of extracts, including cream type M/A. and has a viscosity value in the range of 400-4000 cps and has a pH value in the range of 4.5-6.5. Preparation of hair conditioner rice straw (*Oryza sativa* L.) and hibiscus flower extract (*Hibiscus rosa-sinensis* L.) has the effectiveness of emollients or hair softeners for all formulas and good hedonic test results on F2. The best concentration of F2 was found to be the concentration of 6% rice Straw and 3% hibiscus flower.

**Keywords:** Rice Straw, Hibiscus Flower, Hair Conditioner

**OPP109**

**Ethnobotanical Study of Medicinal Plants by Balinese People in Kerta Buana Village,  
Tenggarong Sebrang District**

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**Abstract**

Traditional medicine is a part of community culture that has been empirically proven to be able to cure various diseases, one of which is the Balinese tribe. However, not only in Bali, in Kalimantan there is also Kerta Buana village which is one of the transmigration villages from the island of Bali. Therefore, this research was carried out with the aim of finding out which plants are widely used to treat diseases, how they are used and processed and which families are widely used by the people of Kerta Buana village, Tenggarong Sebrang sub- district. This research is a qualitative descriptive research with purposive sampling technique. Data collection was carried out using an open interview method guided by a list of questions. The results of the research showed that in Kerta Buana village, 42 species of medicinal plants were found that were frequently used and consisted of 28 families. (35%) are anti-inflammatory drugs that are most widely used by Balinese tribal people in Kerta Buana village, Tenggarong Sebrang subdistrict. The most widely used method of use is drinking with a percentage (54%) and the most frequently used technique for processing medicinal plants is by boiling with a percentage (31%). Of the 28 families, people mostly use the zingiberaceae family with a percentage of (17%) which is believed to be able to treat various diseases. Based on the ethnobotanical study carried out, it can be concluded that there are 42 types of medicinal plants from 28 families that are used as medicinal plants in Kerta Buana village, Tenggarong Sebrang subdistrict.

**Keywords:** Ethnobotany, Medicinal plants, Kerta buana village, Transmigration

OPP110

**Analysis of *Drug Related Problems* (DRPs) of Anti-Tuberculosis Drugs in a Pulmonary Tuberculosis Patient Using the SOAP Method**

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**Abstract**

Tuberculosis is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. Drug Related Problem (DRP) is an undesirable event that can occur in a patient that is related to drug use so that it can interfere with achieving the expected therapeutic goals. This research is a study of a 49 year old male patient with a body weight of 45 kg and a height of 154 cm with a diagnosis of pulmonary tuberculosis who received intensive phase anti-tuberculosis drug (OAT) therapy, namely rifampicin, isoniazid, pirazinamide, ethambutol and a continuation phase, namely rifampicin and isoniazid. This study aims to analyze the DRPs of using OAT therapy in a pulmonary tuberculosis patient using the SOAP analysis method. The results of this research are that there are several DRPs that occur and are resolved with suggestions for additional therapy to overcome the side effects felt by patients as well as providing education to patients so that they continue to consume medication regularly.

**Keywords:** Tuberculosis, OAT, DRPs

OPP111

## **Description of Standard Practices for Pharmacists' Pharmaceutical Services in Samarinda City Pharmacies**

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### **Abstract**

Pharmaceutical services are services a pharmacist provides directly and responsibly to patients relating to pharmaceutical preparations with the aim of achieving patient health. According to Minister of Health Regulation number 35 of 2014 concerning Pharmaceutical Service Standards in Pharmacies, this is the government's effort to enable pharmacists to carry out pharmaceutical services professionally. The purpose of this research is to find out a description of the practice of pharmaceutical services carried out by pharmacists in Samarinda city pharmacies based on Minister of Health Regulation number 35 of 2014. This research is a qualitative descriptive research. Data collection was carried out through the results of questionnaires, interviews and observations of pharmacists in pharmacies. The number of respondents was 37 pharmacists in the Samarinda City Pharmacy. Temporary research results show that pharmacists in Samarinda city pharmacies carry out 80.9% of the practice of managing pharmaceutical supplies, medical devices and consumable medical materials and the practice of clinical pharmacy services has a value of 82.05% according to the standards of Minister of Health Regulation number 35 of 2014.

**Keywords:** Pharmaceutical services, pharmacist, Samarinda city

OPP112

**Case Report: Study of Thiamazole and Bisoprolol Treatment in Hyperthyroid Patients**

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**Abstract**

Hyperthyroidism is a clinical condition caused by an increase in the concentration of thyroid hormone in tissues due to excess production of thyroid hormone by the thyroid gland. Grave's disease is the most common cause of hyperthyroidism. This research is a study of 31 year old female patients who were diagnosed with hyperthyroidism and received drug therapy from the hospital, namely thiamazole 5 mg 1 x 1 and bisoprolol 2.5 mg 1 x 1. Patients also sometimes received additional therapy in the form of KSR 600 mg and Mecobalamin if necessary. Based on a literature review, thiamazole and bisoprolol are the first line to treat hyperthyroidism.

**Keywords:** Hyperthyroidism, Beta blockers, Thiamazole

OPP113

**Formulation of *Moringa Leaves (Moringa oleifera)* Combination Yam  
(*Pachyrhizus erosus*) Cookies**

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**Abstract**

*Moringa* leaves (*Moringa oleifera*) contain vitamin A, vitamin C, acrobic acid, vitamin E, as well as zinc or minerals and fiber.. The fiber and carbohydrate content is higher in *Moringa* leaf flour for processing into various kinds of food. Jicama contains pachyrhizon, rotenone, vitamin B1 and vitamin C. Jicama which is processed into flour will increase the fiber content and other nutrients. Cookies are a type of biscuit made from soft dough, high fat content, relatively crunchy when broken and the cross-section of the pieces has a dense texture. Cookies are a snack made from a mixture of wheat flour and other ingredients such as sugar, eggs, margarine, flavors and so on. Cookie products can produce quality products that consumers like. One effort to improve the quality of cookies is by conducting hedonic and hedonic quality tests. The hedonic test is used to measure the researcher's subjective attitude towards the product based on organoleptic properties. The level of liking on the hedonic scale is very like, like, neutral, dislike, dislike. Hedonic quality is used as a variable to assess products with 4 variables, namely, aroma, taste and texture of cookies with 3 formulas. The results of research based on hedonic tests and hedonic quality showed that the F2 formula was the best formula.

**Keywords:** Cookies, *Moringa* Leaves, Yam, Organoleptic test

OPP114

## **Optimization and Activity Test of Binahong Leaf Extract (*Anredera Cordifolia*) Patch Preparation Against Incision Wound Healing**

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### **Abstract**

Binahong leaves have been proven to accelerate the wound healing process from the results of tests that have been carried out from extracts, ointments, gels, and creams for various external and internal wounds of the body. This study aims to determine the optimization of binahong leaf extract patch preparations and determine the activity of binahong leaf extract patches in accelerating the wound healing process. This research method evaluates extract patch preparations as many as 6 tests, namely organoleptic tests; Thickness; uniformity of weights; Ph; shrinkage drying; and resistance to folds, then test the activity of the preparation using experimental animals, namely rabbits which were divided into 5 control groups, namely K1 negative control (patch without extract); positive control K2 (povidon iodine ointment 10%); K3 test control (extract 2.5%); K4 test control (5% extract); K5 test control (7% extract). Observations were made by measuring the length of the incision wound using a caliper, the wound was measured for 14 days. Data analysis used Two Way Anova and Ducan. The results of this study showed that the formulation of patch preparations 1.2 and 3 with PVP additives 0.2g & HPMC 0.4g met all patch preparation tests. For statistical analysis showed a significant difference ( $p < 0.05$ ) between the negative, positive, K3, K4, and K5 test control groups. Based on the results of Duncan data, it shows that in the patch, the extract concentration of 7% has the greatest effect, namely the wound heals completely in 7 days. The conclusion of optimization of patch preparations that meet the dosage requirements also shows that there is activity to accelerate the healing of incision wounds.

Keywords: Binahong leaves, Patch preparations, preparation evaluation, cut wounds, rabbits

OPP115

**Case Report: Analysis of Drug Related Problems (DRPs) in Patients with Hypertension, Diabetes Mellitus, and Hyperuricemia with Nephrolithiasis**

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**Abstract**

Background: Hypertension (HT), diabetes mellitus (DM), hyperuricemia are degenerative diseases that can play a role in the development of nephrolithiasis. Uric acid nephrolithiasis is a form of kidney stone disease that occurs due to waves of uric acid crystals in the kidneys. Furthermore, uncontrolled blood glucose levels can affect circulation, which makes it more difficult for blood to deliver nutrients to the wound. As a result, the wound will heal slowly and may even develop into diabetic ulcers. Methods: This study used a case report method with primary data analysis from interviews and retrospective data documentation. Results: Mrs. EG is 82 years old with a history of HT ( $\pm$ 15 years), DM (9 months), hyperuricemia (4 years) and recently diagnosed with nephrolithiasis. The patient also complained that her right leg appeared reddish from the inside after scratching. The patient's blood pressure was 135/90 mmHg, GDP 6.5 mmol/L, Uric Acid 9.2 mg/dL. Medication therapy included candesartan, Jardiance, Fusidasol cream. Non-medication therapy in the form of a high animal protein and high sodium diet. Conclusion: Based on evaluation using the SOAP method, several DRPs were found that could be overcome with additional therapy.

**Keywords:** Nephrolithiasis, Hypertension, Diabetes Mellitus, Hyperuricemia, DRPs

OPP116

## Treatment Patterns In Malaria Patients In Timika General Hospital

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### Abstract

Malaria is a contagious disease caused by the parasite Plasmodium (class Sporozoa) which attacks red blood cells in the human body, malaria is very high in endemic areas, one of which is in Papua Province, especially in Mimika Regency. This study aims to determine the characteristics and treatment patterns in inpatient malaria patients at Timika Hospital, Mimika Regency in the January-December 2022 period. The method used in the study was a descriptive non-experimental study with retrospective data collection of 100 medical record data of hospitalized malaria patients who met the inclusion criteria. The results showed that the male sex was more dominant than women with a total of 53 people. At the most dominant age, namely the age of 12-25 years, malaria becomes dominant with 25 people. Then in the most dominant job, namely students, became the main target of malaria infection as many as 25 people. Falciparum (tropical) malaria became dominant because the most cases of falsiparum malaria in Papua were 52 people. DHP (Dihydroartemisinin-piperaquine) treatment as many as 94 people, and artesunate as many as 98 people. For drug administration, proper dosage, and time administration, all in accordance with the management of the Ministry of Health.

**Keywords:** Treatment pattern, patient Characteristics

PP1

## Karakterisasi Simplisia Umbi Temu Kunci dan Daun Mekai Sebagai Bahan Baku Produk Obat Bahan Alam

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### ABSTRAK

Pemanfaatan bahan alam sebagai bahan baku pada produk Kesehatan telah berkembang di kalangan masyarakat. Produk alam yang dapat dimanfaatkan sebagai produk Kesehatan adalah umbi temu kunci dan daun mekai. Temu kunci memiliki sifat anti bakteri, anti jamur, anti alergi, anti kanker, anti radang dan antioksidan. Kandungan yang terdapat didalamnya banyak mengandung minyak atsiri, alkaloid, flavonoid dan fenolik. Sedangkan, pada daun mekai berdasarkan penelitian sebelumnya dapat digunakan sebagai alternatif pengganti *monosodium glutamate* (MSG) atau penyedap rasa. Penelitian ini dilakukan untuk mengkaji karakteristik simplisia umbi temu kunci dan daun mekai yang akan digunakan sebagai bahan baku produk obat bahan alam. Uji pendahuluan dilakukan berdasarkan parameter susut pengeringan, ukuran partikel serbuk dan penampakan bentuk simplisia yang akan dikemas sebagai bahan baku produk. Hasil penelitian menunjukkan bahwa pengeringan simplisia daun mekai pada suhu 100°C selama 30 menit adalah 0,32%. Sedangkan pada umbi temu kunci adalah 1,5%. Pengukuran mikromiretik dilakukan menggunakan mikroskop. Hasil yang didapat secara vertical, horizontal dan diagonal adalah 100 µm. Hasil pengukuran tersebut telah memenuhi syarat sebagai golongan serbuk halus untuk menjadi produk bahan alam.

**Uji Aktivitas Enzime *Polyethylene terephthalate hydrolase* (PETase) pada *Escherichia coli* BL21 (DE3) dalam Mengurai Plastik PET**

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**Abstract**

Since the Covid-19 pandemic, plastic waste in Indonesia has increased. It was recorded that around 28,000 tons of plastic waste. Ocean plastic waste can be degraded into microplastics measuring  $\leq 5$  mm. Microplastics can enter the human body if they consume marine animals, such as fish, contaminated with microplastics. Microplastics can harm human health if they remain in the body long. This research aims to engineer *Escherichia coli* BL21 (DE3) producing PET plastic degrading enzymes, namely *Polyethylene terephthalate hydrolase* (PETase). The codon-optimised PETase gene was made synthetically, and then the plasmid carrying the PETase gene was transformed into *E. coli* BL21 (DE3). The PETase gene was amplified by PCR, analysed by restrictions method using *EcoRI* and *PstI*, tested for PETase activity using the pNPB Assay, and the activity on the surface of plastic fragments was visualised using SEM. Restriction results showed that there was a band sized  $\pm 1000$  bp after agarose electrophoresis, an increase in absorbance at 405 nm based on the pNPB test results, and the cracks and rough surface on the plastic fragment incubated with *E. coli* BL21 (DE3), which carried the PETase gene.

**Keywords:** Covid-19, microplastic, *Escherichia coli* BL21 (DE3), PETase