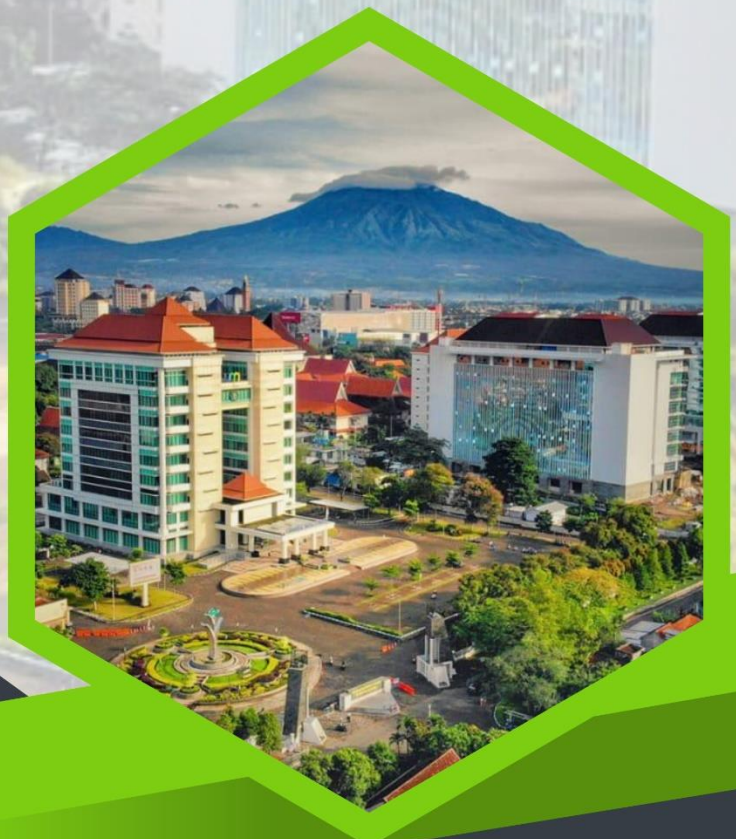
PROGRAM BOOK

THE 1ST MICROMEDHS

THE FIRST MALANG INTERNATIONAL CONFERENCE ON MEDICAL AND HEALTH SCIENCES



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micromedhs.um.ac.id

THE 1ST MICROMEDHS 2024

ORGANIZED BY :

Faculty of Medicine, State University of Malang

CO – HOSTED BY :

UNIVERSITI MALAYA

Universiti Malaya, Malaysia

FKIK Universitas Muhammadiyah Makassar

FK Universitas Islam Al Azhar Mataram

PATNERSHIP:

Kemenkes Poltekkes Malang

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PUBLISHER:

ATLANTIS PRESS Scopus®

REPORT BY CHAIRMAN

dr. Ardhiyanti Puspita Ratna, M.Biomed
Chairman of the Organizing Committee

Assalamualaikum
Syalom
Om Swastiastu
Namo Budaya
Salam Kebajikan
Good Morning

Honorable Rector of Universitas Negeri Malang, Prof. Hariyono
Dean, Faculty of Medicine, Universitas Negeri Malang, dr. Moch. Yunus
Board members of the Faculty of Medicine, Universitas Negeri Malang

We are honored to have prominent speakers from around the world joining us today:

- Prof. Chi Wen Lung from Asia University, Taiwan.
- Asri Maharani from the University of Manchester, UK.
- Prof. Tan Sri Dato' Seri Dr. Haji Noor Hisham bin Abdullah from the University of Cyberjaya, Malaysia.
- Dr. Nanang Tri Wahyudi from Universitas Negeri Malang, Indonesia.
- The honorable all presenters and participants.

On behalf of the organizing committees, I'm proud to warm welcome everyone to the wonderful jewels of east java, Malang.
Thank you for joining us at the 1st Malang International Conference on Medical and Health Sciences (MICROMEDHS) 2024 presented by The Faculty of Medicine State University of Malang.

This event is held over two days. On the first day, September 13th, we've conducted workshops on kinesiotaping, sports massage, and baby massage. And today, September 14th, we will feature the main seminar along with paper presentations, inviting active participation from all attendees to engage in discussions and exchange ideas.

This conference raised the theme "Optimizing Health through Holistic Approach: Innovation, Challenges, Collaboration, and Impact'.

The theme, is highly relevant to the current global health landscape. The increasing prevalence of chronic diseases, coupled with the complex interplay of biological, environmental, and social factors, necessitates a comprehensive approach to healthcare. Moreover, rapid advancements in technology and the growing recognition of the importance of mental and social well-being underscore the need for innovative and collaborative solutions to achieve optimal health outcomes.

This seminar is attended by academics and practitioners in the health field, including lecturers, researchers, and students. This year, we have more than 150 participants from both domestic and international backgrounds. Over 40 articles will be presented, showcasing the diversity of research and innovation in the health sector.

On behalf of the entire committee, I would like to thank all parties who have supported and assisted in the organization of this conference, especially the co-hosts and partners from University of Malaya, Malaysia, Universitas Muhammadiyah Makassar, Indonesia and Universitas Islam Al Azhar Mataram, Indonesia, and also Health Polytechnic Ministry of Health Malang

We hope this event will be beneficial for all of us,
Enjoy the seminar, and let us work together to achieve better health through a holistic approach.

Thank You
Wassalammualaikum Wr. Wb.

Regards,
dr. Ardhiyanti Puspita Ratna, M.Biomed
Chairman of the Organizing Committee of The 1st Malang International Conference on Medical and Health Sciences (MICROMEDHS) 2024

OPENING REMARK

Dr. dr. Moch. Yunus, M.Kes
Dean Faculty of Medicine, State University of Malang

Assalamualaikum Wr. Wb.

Ladies and Gentleman
I would like to welcome you all to the 1st Malang International Conference on Medical and Health, which is held here, in Malang. Im greatly honored to have this opportunity to thank the keynote speakers, guests, international and national participants, and everyone involved in this conference for the support, dedication, to make this event successfull.

This conference is organized by the Faculty of Medicine, Universitas Negeri Malang.
As a short introduction to our Faculty, we have 3 Departments (Medical Department, Nursing Department, and Midwifery Department). Our Vision is to become excellence in the fields of medicine and sports health)

Therefore, as one of the real effort in achieving that vision, we organized this scientific meeting with the theme **"Optimizing Health through Holistic Approach: Innovation, Challenges, Collaboration, and Impact"**. As one of the global recognition of comprehensive health care, as emphasized by the World Health Organization (WHO).

Those, this 1st Malang International Conference on Medical and Health, is held to bring together leading academic scientist, researchers, and scholars from different places. Organization should be exchange their experience and research result on all aspect of health.
I sincerely hope yoou will enjoy this seminar, presentation and networking.
Thank you for participation
Wassalamualaikum Wr. Wb.

Welcoming Speech by the Rector, Universitas Negeri Malang

Prof. Dr. Hariyono, M.Pd

The 1st Micromedhs: Malang International Conference on Medical and Health Sciences, Organized by Faculty of Medicine, Universitas Negeri Malang

Assalamualaikum Wr. Wb.

Distinguished Guests,
Esteemed Speakers,
Honored Delegates,
Ladies and Gentlemen,

Good morning and welcome to the 1st Malang International Conference on Medical and Health Sciences, or Micromedhs, organized by the Faculty of Medicine, Universitas Negeri Malang. It is with great pleasure and pride that I stand before you today to open this significant event.

The theme of our conference, "Optimizing Health Through Holistic Approach: Innovation, Challenges, Collaboration, and Impact," is both timely and relevant. In an era where health challenges are becoming increasingly complex, a holistic approach that integrates innovation, addresses challenges, fosters collaboration, and assesses impact is crucial. This conference seeks to bring together leading minds in medical and health sciences to share knowledge, explore new ideas, and forge partnerships that will drive progress in our field.

Universitas Negeri Malang is dedicated to contributing to the health and well-being of society. Through our academic programs, research initiatives, and community outreach, we strive to elevate the health standards of our community and beyond. Our participation in this conference underscores our commitment to the SDGs and our resolve to make a positive impact on public health.

We are honored to host esteemed speakers and participants from various parts of the world. Your presence here signifies a shared commitment to advancing health through collaborative efforts and innovative solutions. It is through such gatherings that we can collectively address the pressing health challenges of our time and work towards achieving global health equity.

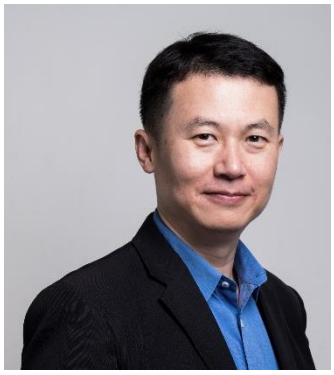
I would like to take this opportunity to extend my heartfelt gratitude to all those who have worked tirelessly to make this conference a reality. Your dedication and hard work are truly commendable. I also wish to thank our sponsors, partners, and all participants for their support and engagement.

In conclusion, I encourage each of you to actively participate in the sessions, engage in discussions, and build lasting connections. Let us use this platform to inspire and be inspired, to challenge and be challenged, and to collaborate towards a healthier and better future for all.

Once again, welcome to the 1st Micromedhs. May our time together be fruitful and impactful.

Thank you.

KEYNOTE SPEAKERS

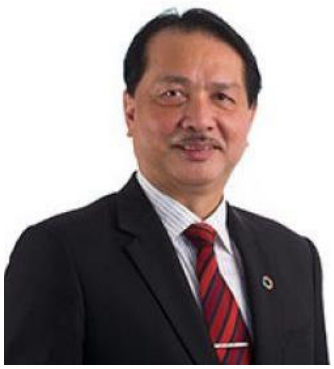


Chi-Wen Lung, Ph.D.
Asia University, Taiwan
He is a Professor and Chair in the Department of Creative Product Design at Asia University, Taiwan, and an affiliate of the Department of Bioinformatics and Medical Engineering. He holds a Ph.D. in Biomedical Engineering from National Yang-Ming University and completed postdoctoral training at the Chinese Academy of Sciences. Dr. Lung's research focuses on interface pressure distribution between humans and orthoses, improving designs for sports shoes and wheelchair cushions. With around 60 peer-reviewed publications, his interests also include human-machine interfaces for sports biomedical devices. He is a member of several professional organizations, including the Taiwanese Society of Biomechanics and the Ergonomics Association of Taiwan.

Dr. Asri Maharani
University of Manchester, England
She is a Lecturer in Epidemiology and Public Health at the University of Manchester, specializing in global population health. Her research primarily addresses mental health, cognitive function, and healthy ageing, with a particular focus on a life course approach. She has successfully secured external funding for various research projects, including support from NIHR, Australia's NHMRC, GACD, and the Indonesia Science Fund. Additionally, she holds fellowships with the Royal Society of Public Health (FRSPH) and the Royal Statistical Society (FRSS) in the UK.

dr. Nanang Tri Wahyudi, SpKO, Subsp.ALK(K)
State University of Malang, Indonesia

dr. Nanang, born in Magetan on September 27, 1978, is a distinguished Sports Medicine Specialist currently serving as a lecturer at the State University of Malang since 2020. He earned his medical degree from Gadjah Mada University (1996-2003) and specialized in Sports Medicine at the University of Indonesia (2007-2012). dr. Nanang has extensive experience as a medical official for various professional sports teams, including Arema FC, Persija Jakarta, Persebaya Surabaya, and the Indonesian National Football Team (PSSI). Additionally, he has worked as a wellness consultant for Pertamedika (2011-2019) and is currently a sports science consultant for ASIFA (2013-2024). His medical practice is also associated with Persada Hospital Malang, and he previously held leadership roles at Ristra Institute and Global Assistance and Healthcare.



Tan Sri Dr Noor Hisham Abdullah
Putrajaya Hospital, Malaysia

Tan Sri Dr. Noor Hisham Abdullah is a Senior Consultant Surgeon specializing in breast and endocrine cancers at Putrajaya Hospital and served as Malaysia's Director General of Health from 2013 to 2023. With a medical and surgical degree from the National University of Malaysia (UKM), he completed his fellowship in breast and endocrine surgery through the Royal Australasian College of Surgeons. He has published extensively in his field and held leadership roles in global health organizations, including WHO and the International Society of Surgery. Dr. Noor Hisham's leadership during the COVID-19 pandemic earned him several prestigious awards, including the "Outstanding BrandLeadership Award 2020" and the "UKM Most Notable Alumni 2019." His work focuses on advancing universal healthcare and integrating personalized care into communities through innovative digital solutions.

RUNDOWN 1st MICROMEDHS

OPTIMIZING HEALTH THROUGH HOLISTIC APPROACH: INNOVATION, CHALLENGES, COLLABORATION, AND IMPACT

1st INTERNATIONAL SEMINAR (14 September 2024 Lokasi B1 FK UM)

Time (GMT +7)	Duration	Agenda	
07:00–07:45	45'	Preparation	
07:45–08.15	30'	Open Gate and Registration (Playing FK UM Company Profile)	
08.15–08.20	5'	Opening ceremony	
08.20-08.25	5'	Indonesia Raya National Anthem	
08:25–08:35	10'	Report by Chairman of 1th MICROMEDHS **dr. Ardhiyanti Puspita Ratna, M.Biomed.**	
08:35–08:40	5'	Welcome Speech by The Dean of Faculty of Medicine Universitas Negeri Malang, **Dr. dr. H. Moch. Yunus, M.Kes.**	
08:40–08:45	5'	Welcome Speech and Official Opening by Rector of Universitas Negeri Malang, **Prof. Dr. Hariyono, M.Pd.**	
08:45–08:50	5'	Prayer : **Nauval**	
08.50–09.00	5'	Opening performance: Traditional Dance "Tari topeng Malangan"	
	5'	Plenary Session 1: Moderator: **dr. Erianto Fanani, S.Ked., M.KKK**	
09.00 – 09.45	45'	Presentation of 1st Speaker	**Prof. Chi Wen Lung** Asia University - Taiwan
			Topic: Utilizing AI for Diabetic Complications Prevention:

Time (GMT +7)	Duration	Agenda	
			Innovations and Implementation
09.45 – 10.30	45’	Presentation of 2nd Speaker	**Asri Maharani, MD.,MSc., PhD** University of Manchester - UK
			Topic: “Comprehensive Approach to Determine Human Health”
10.30 – 11.00	30’	Discussion	
		Plenary Session 2: Moderator: **Ronal Surya Aditya , S.Kep., Ns., M.Kep.**	
11.00 – 11.45	45’	Presentation of 3rd Speaker	**dr. Nanang Tri Wahyudi, Sp.K.O** Universitas Negeri Malang - Indonesia
			Topic: “Preventing Sudden Cardiac Arrest Among Active People”
11.45 – 12.30	45’	Presentation of 4th Speaker	**Tan Sri Dato' Sri Dr. Noor Hisham bin Abdullah** University of Cyberjaya Malaysia
			Topic: “The Salient Lessons Learned From The Pandemic Covid”
12.30 – 13.00	30’	Discussion	
		Closing	
13.00 – 13.45	45’	Break	
13.45 – 15.00		Parallel Session (Oral Presentation) Room 1 Moderator: **Nina Rini Suprobo, S.Keb, Bd., M.K.M.**	
		Parallel Session (Oral Presentation) Room 2 Moderator: **Rizqie Putri Novembriani, S.Keb, Bd., M.K.M.**	

Time (GMT +7)	Duration	Agenda
	75’	Parallel Session (Oral Presentation) Room 3 Moderator: **dr Andrew Sp.THT**
		Parallel Session (Oral Presentation) Room 4 Moderator: **Nurul Evi, S.Kep., Ns., M.Kep.,Sp.Kep.Mat.**
		Parallel Session (Oral Presentation) Room 5 Moderator:
15.00 – 15.10	10’	Closing ceremony and photo session

1st INTERNATIONAL WORKSHOP (13 September 2024) (GKB A20 lnt 9)

Time (GMT +7)	Duration	Agenda		keterangan
07:00–07:45	45'	Preparation		sie kestari, registrasi
07:45–08.15	30'	Open Gate and Registration (Playing FK UM Company Profile)		operator tim pdd
08.15–08.20	5'	Opening ceremony		mc: farsya and afif
08.20-08.25	5'	Indonesia Raya National Anthem		
08:25–08:35	10'	Report by Chairman of 1th **MICROMEDHS** **dr. Ardhiyanti Puspita Ratna, M.Biomed**		**offline**
08:35–08:40	5'	Welcome Speech by The Dean of Faculty of Medicine Universitas Negeri Malang, **Dr. dr. H. Moch. Yunus, M.Kes**		offline
08:40–08:45	5'	Welcome Speech and Official Opening by Rector of Universitas Negeri Malang, **Prof. Dr. Hariyono, M.Pd.**		video
08:45–08:50	5'	Prayer: **Nauval**		
08.50–09.00	5'	closing by mc, photo session and Mobilisasi Peserta		sie perkap dan acara mobilisasi sbg LO
09.00-11.30	90'	Workshop of 1st Speaker	**dr. Nanang Tri Wahyudi, Sp.K.O** Universitas Negeri Malang, Indonesia Lokasi GKB A20 kelas	sie perkap dan acara sbg LO
			Topic: Kinesiotaping	
	90'	Workshop of 2nd Speaker	**Winny Kirana / Alifia Candra P.** Universitas Negeri Malang, Indonesia Lokasi FK kelas	sie perkap dan acara sbg LO
			Topic: Baby Massage	
	90'		**Putra Ramadhan/Qory Tifani** Universitas Negeri Malang,	sie perkap dan acara sbg LO

Time (GMT +7)	Duration	Agenda		keterangan
		Workshop of 3rd Speaker	Indonesia Lokasi Lab. Massage FIK	
			Topic: Sport Massage	

PRESENTER OF PARAREL SESSION

THE 1ST MICROMEDHS

Breakout Room 1
Moderator: Nurul Evi, S.Kep.,Ns.,M.Kep.,Sp.Kep.Mat
Operator : Arif Ladika
Panelist: dr. Andreas Budi Wijaya, M.Biomed., Sp.A

No	Author	Title	Affiliation
1	Nina Rini Suprobo	Short Counselling Program Enhances Health Care Workers' Knowledge And Attitude In Early Detection Of Stunting In Children: Influencing Factors	Universitas Negeri Malang
2	Ronal Surya Aditya	Enhancing Athlete Performance With Mobile Health Applications: Benefits And Challenges	Universitas Negeri Malang
3	Qory Tifani Rahmatika	Perceived Causes Of Failure To Thrive: Mothers' Perspectives	Universitas Negeri Malang
4	Hartati Eko Wardani	Development Of Vibrated Insole (Vibin) Shoes Prototype To Prevent Diabetic Foot Ulcers	Universitas Negeri Malang
5	Kiky Martha Ariesaka	Spesific Primer Design Based On The Coding DNA 16S Ribosomal RNA For Detecting Serratia sp. and Wolbachia sp. In Dengue Vector Aedes aegypti	Universitas Negeri Malang
6	Ardhiyanti Puspita Ratna	The Expression of Subunit P65 NF-Kb on Neuron After Supplementation Of Rose Petal Yoghurt And Moderate Intensity Exercise In High Glycotoxin Diet Induced Rat	Universitas Negeri Malang
7	Editya Fukata	Anti-Obesity Potential Of Cinnamon Essential Oil: An Exploration Of Mechanisms Using In Silico Molecular Docking Simulations On Lep-R And Ptp1b	Universitas Negeri Malang
8	Karina Nilasari	The Role Of Aerobic Exercise In Modulating Lipid Profiles Among Obese Population: A Systematic Review	Universitas Negeri Malang
9	Yhenti Widjayanti	Family History Of Diabetes Mellitus, Menopausal Status and Lack Of Physical Activity Significantly Increase The Risk Of Insulin Resistance In Non-Diabetic Women	Universitas Negeri Malang

No	Author	Title	Affiliation
10	Hilma Tsurayya Iftitahurroza	Teaching About Physical Activity Counselling For Medical Students: A Systematic Review	Universitas Negeri Malang
11	Anditri Weningtyas	Molecular Mechanisms of Vascular Calcification In Diabetes Mellitus: Insights From Human Aortic Smooth Muscle Cells. A Systematic Review	Universitas Negeri Malang
12	Karina Nilasari	Pure Red Cell Aplasia In Patient With Thymoma: Rare Case Report	Universitas Negeri Malang

Breakout Room 2
Moderator : Rizqie Putri Novembriani, S.Keb.,Bd.,M.K.M
Operator : Zhafirah Auliarahma
Panelist: Dr. dr. Ami Febriza Achmad, M.Kes

No	Author	Title	Affiliation
1	Lalu Moh Yudha Isnaini	Effect of Dry Cupping and Wet Cupping on Maximum Aerobic Capacity (VO2 Max) and the Anaerobic Endurance	Universitas Negeri Malang
2	Taufik	Validity and Reliability Testing of a Motor Skills Assessment Tool: A Study on Children Aged 6-9 Years	Universitas Negeri Malang
3	Amalia Tri Utami	Systematic Review and Metaanalysis : Jetpack Development for Emergency Doctors in Disaster Management	Maryam and Isa Corp
4	Monica Dara Delia Suja	Breastfeeding Self-Efficacy For Successfull Exclusive Breastfeeding Practice In Primiparous Women	Poltekkes Kemenkes Tanjungkarang
5	Sitti Zakiyyah Putri	Foot Massage Relaxation Techniques For Reducing Pain In Post-Caesarean Section Surgery Patients: Case Study	Universitas Muhammadiyah Makassar
6	Reny Retnaningsih	Maternal Anemia's Impact On Newborn Hemoglobin And Erythrocyte Levels	Institut Teknologi, Sains dan Kesehatan RS dr Soepraoen, Malang
7	Eky Ocviana A	The Relationship Of Attitude And Internal Family Behavior Prevent The Transmission Of Pulmonary Tbc Disease To Children	Universitas Muhammadiyah Ponorogo

Breakout Room 3
Moderator : dr. Andrew Halim, Sp.THT-KL, FICS
Operator : Izzah Fadhila Robbani
Panelist: Dr. Dewi Ratna Sulistina, SST.,M.Keb

No	Author	Title	Affiliation
1	Nur Muallima	"Unexpected Relapse Post-Pip Arthroplasty In A Young Adult: A Case Of Recurrent Joint Instability	Universitas Muhammadiyah Makassar
2	I Putu Dedy Arjita	Analysis of Potential α-Amilase Inhibitor in Nyale Worm (Eunice sp.) Extract for Anti-Diabetic Target: An In-Silico Approach	Universitas Islam Al-Azhar
3	Nurmila	Sindrom Kartagener	University of Muhammadiyah Makassar
4	Saldy Meirisandy	Analysis Of The Relationship Between Type 2 Diabetes Mellitus And The Risk Of Falls In Elderly Patients At Syekh Yusuf Regency, Gowa Regency	Universitas Muhammadiyah Makassar
5	Juliani Ibrahim	Access Distance To Antenatal Care On Stunting Incidence: Evidence From The Tampa Padang Community Health Center Region, 2020-2021	Universitas Muhammadiyah Makassar
6	Andrew Ivan Humonobe	Smartphone Usage And Risk Of Tension-Type Headache Incidence In Sorong, Southwest Papua: A Hospital-Based Study	Universitas Papua
7	Derallah Ansusa Lindra	Potential Use Of Alpha Klotho In Relation To Oxidative Stress In Chronic Obstructive Pulmonary Disease (Copd): A Systematic Review	University of Yarsi
8	Ninda Devita	Persistence Of Antibody Post Hepatitis B Vaccination: A Scoping Review	FK UII

Breakout Room 4
Moderator : Nindi Kusuma Dewi, S.Keb.,Bd.,M.Keb
Operator : Manna Wasalwa
Panelist: dr. Karina Nilasari, Sp.PK

No	Author	Title	Affiliation
1	Laras Putri Gamagitta	Patterns Of Running Physical Activity, Nutritional Status, And Dietary Composition In A Community Of Recreational Marathon Athletes In Malang	Universitas Negeri Malang
2	Rajendra Aulya Gilardino	Corellation Between Middle Upper Arm Circumference (Muac), Body Mass Index (Bmi), Daily Calories Intake And Hemoglobin Level Among Adolescent Girls In Benjor Village, Malang Regency, East Java	Universitas Negeri Malang
3	Maria Godiva	Quick Insights Into Exclusive Breastfeeding Barriers And Facilitators Among Working Women In Indonesia	Universitas Negeri Malang
4	Nisita S. Rahzendriya	Modern Contraceptive Methods And Exclusive Breastfeeding Practices Among Working Mothers In Indonesia	Universitas Negeri Malang
5	Hafsari N. Aryani	Exploring Factors Influencing Stunting Prevention And Management In Malang Regency: A Qualitative Approach	Universitas Negeri Malang
6	Lintang Nirmalasari Gemalochaya Manggolono	The Role of Range of Movement Exercise, Strength Training, and Nutrition in Post-Stroke Rehabilitation: A Literature Review	Universitas Negeri Malang
7	Anindya Zerlina Tsaqif	Effect Of Ethanol Extract Of Soursop Seeds (Annona muricata L.) On Parasitemia Levels In Plasmodium Berghei-Induced Balb/C Mice	Universitas Negeri Malang

Breakout Room 5
Moderator : Nina Rini Suprobo, S.Keb.,Bd.,M.Keb
Operator : Naila Ausshafa Azzahra
Panelist: Nurma Afiani, S.Kep.,Ns.,M.Kep

No	Author	Title	Affiliation
1	Aditia Rizka Rahadi	Case Report: Exposure Of Di-Ethylhexyl Phthalate (Dehp) And Microplastics To Electrician With Nephrotic Syndrome In Plastic Manufacturing Plant	Universitas Indonesia
2	Anindya Ratnasari Putri	Identification Of Physical Activity, Sedentary Behavior, Sleep Duration, In Term Of Nutritional Status Among Children Aged 3 - 5 Years In Lowokwaru Subdistrict, Malang	Universitas Negeri Malang
3	Muhammad Shokhiful Wafa Arya Wida Sena	Advancements In Minimally Invasive Techniques For Thoracolumbal Burst Fracture: A Bibliometric Study	Universitas Sebelas Maret
4	Erianto Fanani	Fire Extinguishing Training Using Light Fire Extinguishers For Football Academy Employees	Universitas Negeri Malang
5	Erianto Fanani	Implementation Of Stretching Exercises In The Workplace For Hospital Employees	Universitas Negeri Malang
6	Erianto Fanani	Cardio Pulmonary Resuscitation Training On Cardiac Arrests For Football Athletes	Universitas Negeri Malang
7	Tisnalia Merdya Andyastanti	Body Mass Index As A Risk Factor For Hypertension In The Elderly: A Cross-Sectional Study In Benjor	Universitas Negeri Malang
8	Lintang Widya Sishartami	Effectiveness Of Anemia Counseling And Screening Programs In Improving Health Knowledge Of High School Students	Universitas Negeri Malang

ABSTRACT MICROMEDHS

THE ROLE OF AEROBIC EXERCISE IN MODULATING LIPID PROFILES AMONG OBESE POPULATION: A SYSTEMATIC REVIEW

Karina Nilasari, Moch. Yunus, Erianto Fanani

Medical Faculty, Department of Medical Science, Universitas Negeri Malang, Malang, Indonesia

Objective. Aerobic exercise and a combination of resistance training are often used to manage blood lipid profiles in individuals with obesity. Various physical exercise intervention approaches have been studied in different populations, including children, adolescents, and adults, to assess their impact on lipid components such as total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), and triglycerides. (TG). The aim of this systematic review is to evaluate the effects of various types of physical exercise, including aerobic, resistance, and combination exercises, on blood lipid profiles in individuals with obesity or overweight.

Method: This research includes several types of studies, including randomized controlled trials (RCT), cohort studies, and cross-sectional studies, involving various populations with obesity or at risk of lifestyle-related diseases.

Results: Most physical interventions conducted showed a significant decrease in LDL and triglyceride levels, as well as an increase in HDL levels in several groups.

Conclusion: Various forms of physical exercise, whether aerobic, resistance, or a combination of both, consistently have a positive impact on blood lipid profiles, particularly in lowering LDL and triglycerides while increasing HDL. This effect appears consistent across various age groups and health conditions, indicating that physical exercise interventions can be an effective strategy in managing lipid profiles and reducing the risk of cardiovascular diseases in overweight and obese populations.

Keywords: Aerobic Exercise; Resistance Training; Blood Lipid Profiles; Low-Density Lipoprotein (LDL); High-Density Lipoprotein (HDL); Triglycerides (TG); Obesity; Overweight

IDENTIFICATION OF PHYSICAL ACTIVITY, SEDENTARY BEHAVIOR, SLEEP DURATION, IN TERM OF NUTRITIONAL STATUS AMONG CHILDREN AGED 3 - 5 YEARS IN LOWOKWARU SUBDISTRICT, MALANG

Anindya Ratnasari Putri[1], Dona Sandy Yudasmara[2], Laras Putri Gamagitta[3]

Physical Education, Health and Recreation, Faculty of Sports Science, State University of Malang,

Jl. Semarang No. 5 Malang, East Java, Indonesia

Abstract

Objectives

The purpose of this study was to describe physical activity, sedentary activity, and sleep duration in terms of nutritional status among children aged 3-5 years in Lowokwaru Subdistrict, Malang City.

Methods

The chosen method was a survey with a descriptive quantitative non-experimental approach. The sample was selected using non-probability purposive sampling, involving a total of 40 children aged 3-5 years. Data on physical activity, sedentary activity, and sleep duration were collected using a validated questionnaire called the Surveillance of digital-Media habits in earLy chiLdhood Questionnaire (SMALLQ) and nutritional status was measured using the WHO Anthro Survey Analyzer application.

Result

The results showed that the majority of children aged 3-5 years had a good nutritional status with an average BMI Z-score of 0.21, covering 77.5% of the population. The children were more physically active on weekends/holidays, within the range of 60±720 minutes per day, classified as meeting the standards with a percentage of 95%. However, sedentary activities such as screen time were higher on weekends/holidays, within the range of 100±2280 minutes per day, classified as not meeting the standards with a percentage of 95%. Additionally, sleep duration was predominantly higher on weekdays, within the range of 1200±4200 minutes per day, classified as not meeting the standards with a percentage of 72.5%.

Conclusion

Based on the overall study results, the majority of children aged 3-5 years had good nutritional status, while physical activity, sedentary activity, and sleep duration showed significant variations between weekdays and weekends or holidays.

Keywords: Physical Activity Guidelines, Sedentary Activity, Sleep Duration, Nutritional Status

FAMILY HISTORY OF DIABETES MELLITUS, MENOPAUSAL STATUS AND LACK OF PHYSICAL ACTIVITY SIGNIFICANTLY INCREASE THE RISK OF INSULIN RESISTANCE IN NON-DIABETIC WOMEN

Yhenti Widjayanti[1,4], Budi Santoso[2*], Purwo Sri Rejeki[3], Muhammad Putra Ramadhan[4]

[1]Doctoral Program of Medical Science, Faculty of Medicine, Universitas Airlangga

[2] Department of Obstetrics and Gynecology, Faculty of Medicine, Universitas Airlangga

[3] Physiology Division, Department of Medical Physiology and Biochemistry, Faculty of Medicine, Universitas Airlangga

[4]Department of Nursing, Faculty of Medicine, Universitas Negeri Malang

[*]Correspondence: budi.santoso@fk.unair.ac.id

ABSTRACT

Background. Insulin resistance (IR) is a common complication of Type 2 diabetes mellitus (T2DM). IR is more common in men than in women before menopause. However, women's risk of IR increases significantly after menopause, reaching levels similar to those of men. This study aimed to identify the risk of IR and associated risk factors of insulin resistance in nondiabetic women.

Methods. This cross-sectional study was conducted in East Java, Indonesia, between June and August 2024. Participants were nondiabetic women selected using the consecutive method. This study utilized a questionnaire and the FINDRISC tool to predict individual's risk of insulin resistance and developing diabetes within the next ten years.

Results. The average FINDRISC Score of respondents was 10.4. The risk of developing Insulin resistance/Type 2 diabetes mellitus (T2DM) was classified as low (24.3%), slightly elevated (33.7%), moderate (15.5%), high (24.3%), and very high (2.3 %). Menopausal status, smoking, history of hypertension, and family history of diabetes mellitus had significant correlation with the Findrisc score (p-value= 0.000, $p < \alpha$). Multivariate test results showed that age, menopausal status, waist circumference, body mass index (BMI), physical activity, and family history of DM can significantly be used to predict the risk of insulin resistance (p-value= 0.000, $p < \alpha$). There were three variables that were most dominant in predicting the risk of insulin resistance, namely family history of diabetes mellitus (Coef. B = 3.715), menopausal status (Coef. B = 3.489) and lack of physical activity (Coef. B = 1.262).

Conclusion. Increasing age, waist circumference, BMI, or family history of diabetes mellitus is associated with higher predicted values of the dependent variable while increasing physical activity is associated with lower predicted values**.**

Keywords: Health risk; Insulin Resistance; Menopause; Non-diabetic women.

TEACHING ABOUT PHYSICAL ACTIVITY COUNSELLING FOR MEDICAL STUDENTS: A SYSTEMATIC REVIEW

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Background: Physical activity is proven to have great benefits for individual health. General practitioners have an important role to increase the level of physical activity in society by providing counseling, but many have not done so, due to their lack of understanding of physical activity counseling since they were still in their education.

Objectives: The purpose of this study was to determine the learning strategies used to teach the topic of physical activity counseling in medical education.

Methods: This study used a systematic review design, beginning with filtering articles from four databases namely EbscoHost, PubMed, Scopus, and ScienceDirect, manual searching based on related journals, and followed by snowballing techniques. Inclusion criteria were articles published in 2010-2022, population of medical students, interventions in the form of various learning strategies regarding physical activity counseling, and outcomes in the form of evaluating knowledge, skills, and attitudes according to Kirkpatrick level 2.

Results: 16 selected articles describe various learning strategies regarding physical activity counseling. The majority of the articles use multimodal learning and experential learning methods. All articles show learning strategies proven to increase attitudes towards physical activity counseling. The challenges faced include a lack of provision regarding the theory of physical activity and communication skills, a lack of role models, and also a lack of time allocation.

Conclusion: The results of the study show an overview of learning strategies that can be used to teach physical activity counseling to students along with evaluations and challenges faced. There needs to be more interventional research that examines aspects of knowledge and skills. In facing the challenges that will arise, the curriculum team must design learning strategies carefully and in line with learning objectives.

Keywords: learning strategies, physical activity counseling, medical students.

ADVANCEMENTS IN MINIMALLY INVASIVE TECHNIQUES FOR THORACOLUMBAL BURST FRACTURE: A BIBLIOMETRIC STUDY

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Background: Thoracolumbar burst fractures, often resulting from high-energy trauma, pose significant challenges due to risks of spinal instability and neurological deficits. Traditionally managed with open surgery, which carries considerable risks, these fractures are increasingly being treated with minimally invasive techniques that offer reduced trauma and faster recovery. However, these techniques encounter challenges like technical complexity and a lack of extensive long-term data. **Objective:** This study aimed to analyze advancements in minimally invasive techniques for thoracolumbar burst fractures, identify research trends and gaps, assess diagnostic and treatment challenges, and provide recommendations to improve surgical strategies and clinical outcomes. **Material and Methods:** A bibliometric analysis was performed by extracting 143 documents from the Scopus database in August 2024. The data obtained were analyzed using the Bibliometrix (Biblioshiny) package in R and VOSviewer. **Results:** Covering 66 different sources, the research showed a 5.58% annual growth rate with fluctuating research activity and notable citation peaks in 2010. Early studies emphasized proper technique and timing, while recent research (2010-2024) has increasingly focused on minimally invasive techniques and spinal fixation devices. The study highlights the growing emphasis on refining surgical techniques, biomechanical responses, and fixation devices. Despite the potential of minimally invasive approaches to reduce trauma and accelerate recovery, challenges remain, including technical complexity and limited long-term data. **Conclusion:** The findings of this bibliometric study offer valuable insights of minimally invasive techniques for thoracolumbal burst fracture .This information enables researchers to promptly identify the current focal points and emerging trends within this field. Future research should aim to improve the precision of these techniques, expand long-term outcome studies, and develop better surgical tools, ultimately optimizing patient outcomes and guiding clinical practice.

Key words: Bibliometric, Thoracolumbar Burst Fractures, Minimally Invasive Techniques, Spinal Fixation Devices, Surgical Strategies

POTENTIAL USE OF ALPHA KLOTHO IN RELATION TO OXIDATIVE STRESS IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): A SYSTEMATIC REVIEW

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ABSTRACT

Objectives: Chronic Obstructive Pulmonary Disease (COPD) is associated with ongoing inflammation, overuse injury, and accelerated aging of the lungs. Alpha Klotho is an anti-aging protein that protects cells from inflammation and damage. Alpha Klotho effectively reduces oxidative stress and maintains mitochondrial function by involving the reduction of ROS (reactive oxygen species) through the expression of antioxidant proteins as well as the suppression of ROS-related oxidative stress signaling pathways. However, there is still limited research on the potential use of alpha klotho in relation to oxidative stress in COPD. The aim of this study was to determine the potential use of alpha klotho in relation to oxidative stress in COPD.

Method: This research method uses the Systematic Review method by collecting secondary data from scientific research articles from 2014 - 2024. Data search used the databases PubMed, Google Scholar, Plos Medicine, Taylor and Francis, Nature. Conducted using the terms: alpha klotho, COPD, oxidative stress.

Results: 2 studies were selected for Systematic Review. Shows that alpha Klotho inhibits oxidative stress and the expression of inflammatory mediators so that it can protect lung cells from inflammation and further damage in COPD.

Conclusion: This review suggests that targeting the use of alpha klotho may be useful in suppressing oxidative stress that occurs in disease progression in COPD patients.

Keywords: *alpha klotho, COPD*, *oxidative stress*.

MOLECULAR MECHANISMS OF VASCULAR CALCIFICATION IN DIABETES MELLITUS: INSIGHTS FROM HUMAN AORTIC SMOOTH MUSCLE CELLS. A SYSTEMATIC REVIEW

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ABSTRACT

Introduction. Vascular calcification is a significant contributor to cardiovascular complications in diabetes mellitus (DM), particularly affecting the prognosis of patients.

Aim. To perform a systematic review on the molecular mechanisms underlying vascular calcification in DM, with a focus on insights from human aortic smooth muscle cells (HASMCs).

Material and methods. The search was conducted following the PRISMA guidelines, utilizing databases such as MEDLINE/PubMed, Science Direct, and Google Scholar. The search focused on articles published within the last 5 years that discussed the molecular mechanisms of vascular calcification in DM, specifically in HASMCs.

Results. Five selected reviews were found in a total of 637 articles. DM significantly accelerates vascular calcification in HASMCs through the upregulation of osteogenic markers and activation of the Wnt/β-catenin signaling pathway. Other identified mechanisms include inflammation, ferroptosis, and endothelial dysfunction, contributing to the complex interplay of factors that drive vascular calcification in diabetic patients.

Conclusion. It is concluded that diabetes mellitus significantly accelerates vascular calcification in human aortic smooth muscle cells through the activation of the Wnt/β-catenin signaling pathway and increased expression of osteogenic markers. This pathological process contributes to the development of cardiovascular complications in diabetic patients..

Keywords. aortic smooth muscle, diabetes mellitus, molecular mechanism, vascular classification

PERSISTENCE OF ANTIBODY POST HEPATITIS B VACCINATION: A SCOPING REVIEW

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Objectives

Vaccination is a key prevention strategy for Hepatitis B infection, effectively reducing the incidence and transmission of the disease. However, the protective antibody titers generated by the vaccine can diminish over time, potentially leaving individuals vulnerable to infection. This study aims to determine the duration of the immune response's effectiveness after hepatitis B vaccination, providing valuable insights into when booster doses might be necessary. Understanding the longevity of immunity is crucial for optimizing vaccination schedules and ensuring long-term protection against Hepatitis B.

Methods

Research papers were searched using the PubMed database with the keywords “antibody titer AND post hepatitis B vaccine.” Studies were included if they involved healthy adult subjects, measured anti-HBs titers after hepatitis B vaccination, and were written in English. Review papers and studies published more than 10 years ago were excluded. The search yielded 201 records, of which 165 were excluded based on title and abstract. The remaining studies were independently screened by reviewers, and non-relevant articles were excluded after full-text revision, resulting in 17 peer-reviewed articles being included in this scoping review.

Results

The study results show varied long-term responses to hepatitis B vaccination. After 2.5 years, 88.1% of 3A-HBV subjects remained seroprotected, compared to 72.4% of 1A-HBV subjects. After 8 years, 65.0% of the immunized group maintained protection, with a mean anti-HBs GMT of 26.30 mIU/mL, compared to 9.33 mIU/mL in the control group. Revaccination significantly boosted anti-HBs titers in both males and females, with levels rising from 10.08 to 844.58 mIU/mL in males and from 20.49 to 842.88 mIU/mL in females. After 12 years, 14.2% of subjects had titers below 10 IU/ml, and 8.2% of healthcare workers had similar low levels more than 5 years after vaccination. Non-responders were identified, particularly among healthcare workers, and protective antibody levels varied across different follow-up periods.

Conclusion

The study's findings demonstrate that while the majority of subjects maintain seroprotection for several years following hepatitis B vaccination, antibody titers decline over time, particularly beyond 5 to 12 years. This suggests that the duration of the effective immune response can vary significantly among individuals, with some requiring revaccination to sustain protection. These results underscore the importance of monitoring antibody levels over time to ensure long-term immunity, aligning with the study's aim to determine the duration of effective immune response after hepatitis B vaccination.

Effect of Dry Cupping and Wet Cupping on Maximum Aerobic Capacity (VO2 Max) and the Anaerobic Endurance

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ABSTRACT

Objectives Cupping or hijama is a therapy that is both health maintenance and disease healing. The cupping technique functions to improve blood circulation, relax muscles, and make the skin healthy. Dry cupping is where the cupping is pulled for just a few seconds, then released, pulled again, and so on until the skin being cupped becomes red. Wet cupping is a treatment method by removing blood contaminated with toxins or oxidants from the body through the surface of the skin. Dry cupping (DC) is widely used to improve sports performance while Wet Cupping (WC) is used to cure various diseases. The aim of this study was to examine the effect of DC and WC on maximum aerobic capacity vo2max and anaerobic power. **Methods** In this quasi-experimental study, 45 male athletes participated. Maximum aerobic capacity using MFT, anaerobic capacity using the Wingate 30 test. Data were analyzed using paired samples t-test with a significance level of 0.05. The **results** of DC and WC significantly increased maximum aerobic capacity (t14=-4.598, t= -4.871), and could increase anaerobic capacity (t14= 3.686, t=4.997). **Conclusion**: DC and WC can increase maximum aerobic capacity and anaerobic endurance.

Validity and Reliability Testing of a Motor Skills Assessment Tool: A Study on Children Aged 6-9 Years

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ABSTRACT

This study aims to assess the validity and reliability of a motor skills assessment tool designed for children aged 6-9 years, focusing on locomotor, non-locomotor, and manipulative skills. The validity of the assessment tool was evaluated using a content validity approach, involving a panel of experts in physical education and child development to ensure the relevance and comprehensiveness of the test items.

The reliability of the tool was assessed through a trial involving a sample of children aged 6-9 years, with the reliability coefficient analysed to determine the consistency of the measurement results. The findings indicate that the assessment tool has strong validity, as demonstrated by expert consensus regarding aligning the test items with the targeted motor skills. Additionally, the tool exhibited high reliability, with coefficients meeting the established standards for psychometric measurements in early childhood populations. These results suggest that the tool can effectively assess motor skills in children aged 6-9 years and support the development of more accurate, data-driven physical education intervention programs.

Keywords: validity, reliability, motor skills, locomotor, non-locomotor, manipulative, children aged 6-9 years

PURE RED CELL APLASIA IN PATIENT WITH THYMOMA: RARE CASE REPORT

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ABSTRACT

Thymoma is the thymus gland epithelial neoplasm which is most commonly found in the anterior mediastinum and the most common neoplasm associated with paraneoplastic autoimmune disease. PRCA associated with thymoma is very rare and relevant reports limited. PRCA is a normochromic normocytic anemia that occurs due to the absence of red blood cell precursors in the bone marrow. PRCA occurs because of an autoimmune disorder in which an immune mechanism interferes with differentiation of erythroid. Although PRCA only occurs in 5% of thymoma patients, thymoma is found in 50% of PRCA patients.

This case report shows a 62-year-old woman who presented with severe anemia (hemoglobin 2.9 g / dL). An anterior mediastinum mass was detected from CT scan. The result of the FNAB examination was concluded as thymoma. The patient was diagnosed with PRCA through a BMP examination. In this case report, the patient was diagnosed with PCRA with thymoma.

The combination of PRCA and thymoma can occur due to several mechanisms. First, it's possible that thymoma produces T-cell suppressants, which will inhibit differentiation of erythroid. Second, the thymoma causes the formation of an antigen similar to erythroblast cells, which the body will recognize it as an antigen, so the patient's body will against it and causes erythropoiesis activity decrease greatly.

Keywords: thymoma, prca, pure red cell aplasia, prca associated with thymoma

THE RELATIONSHIP OF ATTITUDE AND INTERNAL FAMILY BEHAVIOR PREVENT THE TRANSMISSION OF PULMONARY TBC DISEASE TO CHILDREN

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ABSTRACT

Family attitude is one of the factors related to infection prevention behaviour. Children have a higher risk of exposure to pulmonary TBC. This study aims to determine the relationship between attitudes and family behaviour in preventing the transmission of pulmonary TBC disease to children.

This research design is correlational with a cross-sectional approach. The population of all families of pulmonary TBC patients in children at the Children's Polyclinic RSU Muhammadiyah Ponorogo in January-June 2023 was 191 patients with a sample size of 32 respondents using purposive sampling. The data collection technique used a questionnaire and was analysed using the Chi-Square Test with a significance of α 0.05.

The research results showed that most of the 19 respondents (59.4%) had positive family attitudes, and most of the 17 respondents (53.1%) had positive family behaviour in preventing the transmission of pulmonary TBC disease in children. Based on the results of the Chi-Square SPSS Fisher's Exact Test, it was obtained that p-value = 0.010, which means it is smaller than α = 0.05, meaning Ho is rejected, meaning there is a relationship between attitudes and family behaviour in preventing the transmission of pulmonary TBC disease to children.

The conclusion is that there is a relationship between attitudes and family behaviour in preventing the transmission of pulmonary TBC disease in children, meaning that the more positive the attitude, the more positive the family's behaviour in preventing the transmission of pulmonary TBC disease in children and vice versa, so the researchers recommend that educational institutions carry out community service by providing health education. Prevent transmission of pulmonary TBC disease in the immediate environment, especially at home, to children

Key words: attitudes, behavior family preventing transmission of pulmonary TBC disease in children

Systematic Review and Metaanalysis : Jetpack Development for Emergency Doctors in Disaster Management

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Abstract

This study aims to evaluate and summarize the methods of creating jetpacks suitable for emergency doctors. The research methodology involves a systematic review of relevant literature, including research articles, patents, and technical reports. The scope of the review encompasses various aspects of jetpack design, including engineering principles, material science, propulsion technology, and integration with medical equipment. Additionally, the study examines safety protocols, user ergonomics, and real-world applications to ensure that the jetpacks are both effective and reliable in emergency scenarios. By synthesizing findings from diverse sources, this study seeks to provide a comprehensive guide on the design, materials, technology, and safety aspects to consider in the development of jetpacks for medical emergency use. The anticipated outcomes include recommendations for best practices, identification of current technological gaps, and potential directions for future research and development in this innovative field.

Keywords: Jetpack, emergency doctors, jetpack development, medical technology, emergency air transport

ANTI-OBESITY POTENTIAL OF CINNAMON ESSENTIAL OIL: AN EXPLORATION OF MECHANISMS USING IN SILICO MOLECULAR DOCKING SIMULATIONS ON LEP-R AND PTP1B

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Objectives

Decreased leptin receptor (LepR) sensitivity and increased Protein tyrosine phosphatase 1B (PTP1B) activity have been associated with obesity. Therefore, designing leptin agonists and PTP1B inhibitors is rational in the battle against obesity. The present study aims to investigate the potency of cinnamon essential oil constituents as LepR activators and PTP1B inhibitors by molecular docking simulations

Methods

This *in silico* study was conducted in several steps, including internal validation of docking protocol, molecular docking of test compounds and positive control on LepR and PTP1B using PyRx, chemical interaction visualization using BIOVIA, and pharmacokinetics prediction. The compounds used in this study were cinnamaldehyde, (−)-α-pinene, α-guaiene, cadinene, α-cubebene, and stigmasterol. An FDA-approved anti-obesity drug, setmelanotide, was used as a control ligand.

Results

Molecular docking showed that all cinnamon oil constituents exhibited good binding affinities toward LepR and PTP1B, despite being weaker than setmelanotide. Among 6 main cinnamon oil constituents, stigmasterol exhibited the strongest binding affinity towards LepR and PTP1B, with the binding affinity of -6.8 and -9.1 kcal/mol, respectively. From the pharmacokinetics predictions, all compounds had a good pharmacokinetics profile

Conclusion

Molecular docking simulations of cinnamon essential oil constituents suggest potential interaction with LepR and PTP1B, with stigmasterol showing the strongest binding affinity. Further experimental study is necessary to confirm this result.

Keywords: cinnamon oil, anti obesity, in silico, leptin receptor, PTP1B

EFFECTIVENESS OF ANEMIA COUNSELING AND SCREENING PROGRAMS IN IMPROVING HEALTH KNOWLEDGE OF HIGH SCHOOL STUDENTS

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ABSTRACT

Introduction. Anemia is a common health problem among adolescent, particularly high school students, and it has a severe impact on both health and academic performance.

Aim. Purpose of this study is to evaluate the effectiveness of anemia education and health screening programs in increasing students' knowledge and awareness of anemia.

Material and methods. This study used a pre-post test design without a control group, with 45 students aged 16 to 18 as respondents. The interventions included health education through lectures and the distribution of booklet. In addition, students received an anthropometric evaluation and hemoglobin levels were measured.

Results. According to the screening results, 15 students out of 45 had anemia, with 14 being female students. The results of data analysis showed a significant increase in students' knowledge about anemia after the intervention ($p<0.000$). However, there was no correlation between nutrition status and anemia, nor physical activity and anemia.

Conclusion. According to this study, female students are more likely to suffer from anemia and health education may contribute to increasing awareness of anemia and enhance the quality of life.

Keywords. anemia, health education, students, nutritional status, physical activity

CASE REPORT: EXPOSURE OF DI-ETHYLHEXYL PHTHALATE (DEHP) AND MICROPLASTICS TO ELECTRICIAN WITH NEPHROTIC SYNDROME IN PLASTIC MANUFACTURING PLANT

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Objectives

Di-(2-ethylhexyl)phthalate (DEHP) and microplastics are potential hazards in the production process of plastic manufacturing equipment. Exposure to DEHP and microplastics can affect workers' health, particularly their kidney health. This article aims to determine whether exposure to DEHP and microplastics in an electrician suffering from nephrotic syndrome can be classified as an occupational disease.

Case

A 39-year-old male patient presented with generalised body swelling 1.5 years ago. Supporting examinations revealed a blood albumin level of 1.8 g/dL, urine albumin of +2, and ultrasound findings indicating acute kidney inflammation. The patient has worked as an electrician at a plastic manufacturing plant since 2012, using personal protective equipment (PPE) consisting of a mask and safety shoes.

Conclusion

Based on the evidence in the literature and following the Indonesian seven steps for diagnosing occupational diseases, it was concluded that the nephrotic syndrome experienced by the patient may be an occupational disease. However, environmental measurements at the workplace are necessary to confirm this.

Keywords: DEHP, Microplastic, Nephrotic Syndrome, Electrician, Plastic Manufacturing

CARDIO PULMONARY RESUSCITATION TRAINING ON CARDIAC ARRESTS FOR FOOTBALL ATHLETES

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ABSTRACT

Cardiac arrest as one of the emergency heart cases can happen to anyone, including football athletes. In the last decade, almost every month there have been cases of football athletes who died while playing on the soccer field, even when the regular competitions are underway. One of the factors suspected of being the cause of the late handling on the field is the limited knowledge and ability of fellow athletes in providing first aid for cardiac emergencies, in the form of cardiopulmonary resuscitation (CPR), to people experiencing cardiac arrest. All football athletes involved in this training have received material on the theory, indications, contraindications and procedures for performing the CPR. They are also trained to be able to perform CPR on cardiac arrest victims which is practiced on a CPR mannequin. All training activities are carried out at the Aji Santoso International Football Academy in Malang. The ability to perform cardiopulmonary resuscitation should be possessed by everyone so that if a cardiac arrest occurs to anyone, anywhere and anytime, those closest to them can provide the right assistance so that the risk of death can be minimized.

keywords: Cardio Pulmonary Resuscitation (CPR), Cardiac Arrest, Football Athlete

IMPLEMENTATION OF STRETCHING EXERCISES IN THE WORKPLACE FOR HOSPITAL EMPLOYEES

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ABSTRACT

Hospital employees have a high risk of experiencing health problems, especially in the muscles and joints as a result of their static working positions and postures that last for a long periode of time. Therefore, preventive measures are needed so that hospital employees can avoid muscle and joint problems that can affect their productivity. Stretching exercises in the workplace are a method that aims to increase the strength and flexibility of muscles and joints, which is carried out in the employee's workplace. This exercise follows the B-Fit exercise which initiated by the Ministry of Health with the hope that it can be applied in all government institution. This exercise consists of 4 movements and is done repetitively in less than 3 minutes. Hospital employees are shown these exercise movements and asked to practice the exercise when the presentation is given. This exercise followed by 20% of the hospital employee population consisting of doctors, nurses, administrative staff, and several members of the top management. In the future, it is hoped that this exercise can be implemented by all hospital employees, so that health complaints related to muscles and joints can be minimized.

keywords: stretching exercises, hospital employees, occupational health

FIRE EXTINGUISHING TRAINING USING LIGHT FIRE EXTINGUISHERS FOR FOOTBALL ACADEMY EMPLOYEES

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ABSTRACT

Fire can happen to anyone, anytime and anywhere, including at a football academy. Fire is also one of the disasters that can cause material losses and even death. However, fire can also be prevented and controlled so that its negative impacts can be minimized. One of the efforts to prevent fire disasters from spreading is through fire extinguishing training using light fire extinguishers (APAR). Fire extinguishing efforts should be able to be carried out by everyone, including employees at the football academy. Training is provided by providing knowledge about fire, and the fire protection systems, one of which is APAR. Then, all employees at the football academy are given practical material on how to extinguish fires using APAR directly. This training activity is carried out directly (hands on) in the Aji Santoso International Football Academy area. All training participants have practiced using APAR and are able to extinguish fires in the correct manner. It is hoped that all employees of this football academy are able to extinguish fires using APAR so that the risk of fire can be minimized early on.

keywords: fires, fire extinguishing, light fire extinguisher (APAR)

Spesific Primer Design based on the Coding DNA 16S Ribosomal RNA for Detecting *Serratia sp.* and *Wolbachia sp.* in Dengue Vector *Aedes aegypti*

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ABSTRACT

Introduction

Identification of microbiome species in the dengue fever vector Aedes aegypti is crucial for vector control programs. The 16S ribosomal RNA gene is one of the molecular markers commonly used for bacterial identification.

Objectives

This study aimed to obtain specific primers that can detect Serratia sp. and Wolbachia sp. bacteria in Aedes aegypti mosquitoes based on the 16S rRNA DNA sequence.

Methods

This research was a descriptive in silico study using Primer3 and Primer-BLAST, along with an in vitro confirmation stage using the Polymerase Chain Reaction (PCR) method. DNA sequence data were obtained from NCBI with relevant accession numbers.

Results

The results of the in silico primer design yielded two pairs of potential primers: (1) Left 5'-GCCATCAGATGTGCCCAGAT-3', Right 5'-GGTAAGGTTCTTCGCGTTGC-3' for *Serratia sp.*, and (2) Left 5'-TACGGAGAGGGCTAGCGTTA-3', Right 5'-CCCAACATCTCACGACACGA-3' for *Wolbachia sp*. Visualization of PCR results was detected using 1.5% agarose gel with a product size of around 500-800 bp.

Conclusion

The conclusion of this study was that two pairs of primers were obtained that have the potential to detect Serratia sp. and Wolbachia sp. in *Aedes aegypti* mosquitoes.

Keywords

Aedes aegypti, 16S ribosomal RNA, primer design, PCR, DNA sequences

EFFECT OF SOURSOP SEEDS (ANNONA MURICATA L.) ETHANOL EXTRACT ON PARASITEMIA LEVELS IN PLASMODIUM BERGHEI-INDUCED BALB/C MICE

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Background
Malaria is a severe infectious disease caused by Plasmodium sp. Controlling parasitemia at the early stages of infection is crucial in preventing severe malaria complications. Soursop seed extract contains acetogenins and other active compounds that have potential antimalarial properties.
Objectives
Evaluate the effect of ethanol extract of soursop seeds on the parasitemia level in mice inoculated with Plasmodium berghei.
Methods
This study is a laboratory experimental research using BALB/c mice divided into three groups: positive control (KP), drug control (O), and treatment group (P). The KP group was inoculated with P. berghei without treatment, the O group was inoculated and treated with hydroxychloroquine at a dose of 10 mg/kgBW, and the P group was inoculated and given ethanol extract of soursop seeds at a dose of 100 mg/kgBW. The extract was prepared using 96% ethanol maceration from 482 grams of soursop seeds. The level of parasitemia was measured on days 2, 4 and 6 by taking thin blood smears from the tail vein of the mice.
Results
The mean parasitemia level on the second day in the treatment group (P) was 2.73 ± 0.44, lower compared to the positive control (KP) which was 2.83 ± 0.30, but similar to the drug control (O) at 3.00 ± 0.10. On the fourth day, the parasitemia level in the P group (9.53 ± 1.03) showed a significant increase compared to the O group (7.00 ± 0.70). There was no significant difference in parasitemia reduction between the P and KP groups on the sixth day.
Conclusion
Although the ethanol extract of soursop seeds showed a reduction in parasitemia level on the second day, its effectiveness was not consistent on subsequent days compared to hydroxychloroquine.

Keywords

Malaria, soursop seed extract, parasitemia level, plasmodium berghei, hydroxychloroquine

MATERNAL ANEMIA'S IMPACT ON NEWBORN HEMOGLOBIN AND ERYTHROCYTE LEVELS

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Abstract

Objectives : Anaemia present during pregnancy has been linked to adverse outcomes for both the mother and the baby, including low birth weight and preterm birth. The study aimed to evaluate the influence of maternal anemia on hematocrit and reticulocyte levels in the umbilical cord blood of neonates.

Methods: The research was undertaken at the Place of Independent Practice Midwife Yulia Tri Jayanti in Turen Malang Regency between January and June 2024. It included 100 pregnant women classified according to their hemoglobin levels into two groups: anemic and non-anemic. Fresh umbilical cord blood samples were analyzed promptly after birth, utilizing hematology analyzers to quantify hematocrit and reticulocyte counts.

Results : Significantly lower hematocrit levels suggested indications of enhanced erythropoietic activity more significantly ($p < 0.01$) and more significant reticulocyte counts ($p < 0.01$) in neonates of anemic mothers. Adjusted for maternal age, nutritional condition, and parity, regression analysis definitively shows that maternal anemia is a robust predictor of these changes in neonatal hematological parameters. The results of this study suggest that maternal anemia impacts newborn hematocrit and reticulocyte levels.

Conclusion : This emphasizes the need to identify and treat maternal anemia through improved prenatal care and nutritional practices to enhance health outcomes for both mothers and infants.

Keywords: maternal anaemia, hematocrit, reticulocyte count, umbilical cord blood, neonatal health.

The Role of Range of Movement Exercise, Strength Training, and Nutrition in Post-Stroke Rehabilitation: A Literature Review

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Abstract

This research aims to review scientific evidence on the effectiveness of range of motion (ROM) exercises, strength training, and nutritional intake in post-stroke rehabilitation. The focus is on understanding how these interventions can enhance the quality of life for stroke patients by improving motor function and minimizing complications. The analysis explores the relationship between ROM exercises, strength training, and nutrition to provide insights into rehabilitation strategies that can optimize outcomes for post-stroke patients. The research employed a comprehensive literature review to analyze findings on ROM exercises, strength training, and nutrition in post-stroke rehabilitation. Sources were gathered from academic databases and other platforms, focusing on qualitative analysis techniques like thematic and content analysis to identify key themes and insights. This approach aims to evaluate the relationship between rehabilitation practices and stroke patient outcomes effectively. Research highlights the effectiveness of Range of Motion (ROM) exercises in post-stroke rehabilitation, improving joint flexibility and functional outcomes. Structured ROM regimens over 4 weeks enhance muscle strength, promoting motor function recovery and independence. Combining ROM exercises with physical training and tailored nutrition optimizes recovery and enhances quality of life for stroke survivors when consistently applied according to medical guidelines.

Keywords: Humans, Resistance Training, Recovery of Function Stroke Rehabilitation, Quality of Life, Muscle Strength

Development of Vibrated Insole (Vibin) Shoes Prototype to Prevent Diabetic Foot Ulcers

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Background: The incidence of diabetes mellitus in the world has increased by 102.9% from 11,303,084 cases (1990) to 22,935,630 cases (2017). Diabetes mellitus that is not treated immediately will develop into *Diabetic Foot Ulcer (DFU).* Poor blood circulation is a pathology that can worsen DFU. *Vibration Wound Therapy* has been proven to improve the healing of DFU, namely by administering *a vibrating insole* that improves microcirculation and prevents the development of DFU.

Objective: To develop a *prototype of vibrating insole shoes* for the prevention of DFU due to problems in blood circulation in diabetic patients.

Methods: Vibin's product development uses *the Research and Development (R&D)* method with the ADDIE model which consists of literature study, design, manufacture, assembly, feasibility testing and evaluation. The subjects were 8 healthy people (4 men and 4 women) with normal BMI, no history of certain diseases and had moderate intensity exercise habits. *The vibration insole* is used for 15-30 minutes at moderate intensity on the *treadmill*.

Results: The results of this development research are in the form of *a vibrating insole prototype* that can be connected and regulated with an application. *The vibin* has a vibration point on the metatarsal part 1 and a thumb with a vibration frequency that can be set through the app, with a maximum vibration of 60 Hz. *Vibin* has a battery life that can be used for 60 minutes and is *rechargeable*. *The prototype* has been tested for feasibility by testing the subject. In addition, Vibin has 4 shoe sizes, namely 39, 40, 41, and 42 with models and materials that are comfortable to use for running or walking on *a treadmill.*

Conclusion: *The prototype vibrating insole* (Vibin) has been working well that can be used comfortably and safely for walking or running.

Keywords : Diabetes mellitus, vibrating insole, diabetes foot ulcer, shoes

EXPLORING FACTORS INFLUENCING STUNTING PREVENTION AND MANAGEMENT IN MALANG REGENCY: A QUALITATIVE APPROACH

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ABSTRACT

Objectives : Stunting as a significant public health issue in Indonesia, particularly in rural areas like Malang Regency, has persisted despite government efforts. Despite efforts to address it, the prevalence remains high, highlighting the need for a deeper understanding of the underlying factors. This study aims to explore the underlying factors influencing stunting prevention and management strategies in Malang Regency through a grounded theory approach. By examining the perspectives of key stakeholders, the study seeks to contribute to a deeper understanding of the issue and inform the development of more effective interventions.

Methods : This qualitative study employed a phenomenological approach to understand the experiences of key stakeholders involved in stunting prevention and management programs in Malang Regency. Purposive sampling was used to select six informants, including village midwives, nutritionists, and toddler community health workers. Data was collected through in-depth interviews using a semi-structured topic guide, with interviews conducted at the respective public health centers and community health services.

Results The study found that education and outreach programs had limited impact on stunting prevalence in Malang Regency, and the informant attributes this ineffectiveness to economic factors, implying that poverty is a significant barrier to ensuring adequate nutrition for children as well as iron supplementation faced challenges among pregnant women. Additionally, the provision of supplementary food for stunted children was insufficient, further hampered by the COVID-19 pandemic.

Conclusion : The study highlights the need for a comprehensive approach to address stunting in Malang Regency, focusing on improving the effectiveness of education and outreach programs, addressing challenges in iron supplementation, and ensuring adequate provision of supplementary food for stunted children.

Keyword : *management, prevention, stakeholder, stunting, qualitative*

MODERN CONTRACEPTIVE METHODS AND EXCLUSIVE BREASTFEEDING PRACTICES AMONG WORKING MOTHERS IN INDONESIA

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Abstract

Objectives: Exclusive breastfeeding is a recommended practice for infants, but it often conflicts with the contraceptive needs of working mothers. This study aimed to understand the patterns of modern contraceptive use among working mothers who are exclusively breastfeeding in Indonesia and to analyze the relationship between the use of contraceptive methods and the demographic characteristics of the respondents.

Methods: This descriptive study employed a survey method using Google Forms as a data collection tool. A total of 113 working mothers who were exclusively breastfeeding participated in this study. Data collected included the type of contraception used, parity, age, education, and occupation.

Results: The results showed that of the 113 respondents, 48% did not use contraception, 8% used condoms, 1% used natural family planning, 4% used 3-monthly injections, 24% used intrauterine devices (IUDs), 2% used female sterilization, and 3% used combined oral contraceptives. This variation in contraceptive use indicates diverse needs among working mothers.

Conclusion: This study concludes that working mothers who are exclusively breastfeeding in Indonesia have a variety of contraceptive method choices. Although a majority of respondents did not use contraception, IUDs were a fairly popular method. These findings have significant implications for reproductive health programs, particularly in terms of providing information and easy access to a variety of safe and effective contraceptive methods for breastfeeding mothers.

Keywords: contraception, exclusive breastfeeding, working mothers, IUD, Indonesia, reproductive health

QUICK INSIGHTS INTO EXCLUSIVE BREASTFEEDING BARRIERS AND FACILITATORS AMONG WORKING WOMEN IN INDONESIA

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Abstract

Objectives: This study aimed to identify barriers and facilitators to exclusive breastfeeding among working women in Indonesia.

Methods: This descriptive study employed a survey method using Google Forms as a data collection tool. A total of 109 working mothers who were exclusively breastfeeding participated in this study. Content analysis was used to systematically analyze and understand the content of the responses provided by the participants.

Results: Through content analysis, two main themes were identified: (1) intrinsic factors influencing the success of exclusive breastfeeding, and (2) extrinsic factors influencing the success of exclusive breastfeeding. Intrinsic factors included mothers' knowledge about exclusive breastfeeding, maternal motivation, and emotional responses. Extrinsic factors included support from husbands and family, healthcare providers, and the work environment.

Conclusion: Strengthening both intrinsic and extrinsic factors among working mothers who are breastfeeding is essential to enable them to provide exclusive breastfeeding. Motivation, knowledge, and maternal responses cannot stand alone without support from various parties surrounding the mothers.

Keywords: Exclusive breastfeeding, breastfeeding success, extrinsic factors, intrinsic factors

PERCEIVED CAUSES OF FAILURE TO THRIVE: MOTHERS' PERSPECTIVES

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Abstract

Background:

Failure to thrive (FTT) is a significant concern in pediatric healthcare, and understanding the perceived causes from mothers' perspectives can inform targeted interventions. By addressing misconceptions and reinforcing accurate knowledge, healthcare providers can correct misunderstandings and develop more effective strategies for improving child health.

Objectives

This study aimed to explore mothers' perspectives on the perceived causes of FTT in their children

Method:

Eleven mothers with children who failed to thrive participated in in-depth, face-to-face interviews. The interviews were guided by open-ended questions and probes, focusing on the mothers' perceptions of the causes of FTT. The interviews were audio recorded, transcribed, and analyzed using thematic analysis.

Results:

Three themes emerged from the data: Nutritional Fulfillment Factors, Family and Pregnancy History Factors, and Disease Infection Factors. These themes highlight the complex interplay of factors that mothers perceive as contributing to FTT.

Conclusion:

This study demonstrates the value of semi-structured interviews in capturing the nuanced experiences and perceptions of mothers whose children failed to thrive. The identified themes provide a foundation for further research and the development of targeted interventions that address the unique needs of these families.

Keywords: Growth Faltering, Maternal Perception, Nutritional Adequacy, Family and Prenatal History, Infectious Disease Factors.

CORELLATION BETWEEN MIDDLE UPPER ARM CIRCUMFERENCE (MUAC), BODY MASS INDEX (BMI), DAILY CALORIES INTAKE AND HEMOGLOBIN LEVEL AMONG ADOLESCENT GIRLS IN BENJOR VILLAGE, MALANG REGENCY, EAST JAVA

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Objectives

This study aims to determine the correlation between Middle Upper Arm Circumference (MUAC), Body Mass Index (BMI), daily calories intake and hemoglobin level among adolescent girls in Benjor Village, Malang Regency, East Java.

Methods

This study is a cross sectional study conducted in Benjor Village, Tumpang District, Malang Regency. This study involved 41 female adolescents around 12-20 years old. Data was collected by measuring middle upper arm circumference using a metline, measuring height using a microtoise and weighing a stepping scale and then the data obtained are used to determine body mass index recording calorie intake with the 1 × 24 hour food recall method, and measuring blood hemoglobin with Point of Care Testing (POCT). After all data was obtained, it was statistically analysed using multiple regression test.

Results

From the results of the regression test, an adjusted R square value of 0.075 was obtained, which means that the three independent variables have a 7.5% influence on the dependent variable. from the results of the regression test, a significance value of 0.0158 was obtained, which means that the three independent variables have a simultaneous influence on the dependent variable. however, the results of partial influence show that calorie intake is 0.75, while BMI is 0.038, MUAC is 0.026, which means that the two independent variables have a partial influence.

Conclusion

Based on the overall results of this study, it can be concluded that MUAC and BMI have a correlation with haemoglobin levels but no effect on calorie intake.

Keyword:

MUAC, BMI, Daily Calorie Recall, Adolescent Girl, Hemoglobin Level, Stunting Prevention

FOOT MASSAGE RELAXATION TECHNIQUES FOR REDUCING PAIN IN POST-CAESAREAN SECTION SURGERY PATIENTS: CASE STUDY

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Abstract

Objectives : Sectio caesarea (SC) is a surgical procedure performed to assist the birth process through surgery on the abdominal wall and uterus. This procedure has become an important option in the world of obstetrics, especially in cases where normal delivery is not possible or is risky for the mother and baby. However, although this surgery helps save many lives, post-SC patients often face significant problems, especially related to post-operative pain. Uncontrolled pain can interfere with the recovery process, affect the mother's well-being, and hinder the mother's important role in caring for her baby after birth. This research aims to describe nursing care for postpartum caesarean section mothers by applying foot massage therapy to reduce pain**.**

Case : This research uses a case study design. Data collection ranging from assessment to nursing evaluation was carried out in the treatment room at PKU Muhammadiyah Mamajang Hospital, Makassar, from July to August 2024. The samples used were 2 patients who were treated at the hospital for a minimum of 3 days. Data collection techniques use interviews, observation and documentation studies. assessment of two respondents who were postpartum mothers who underwent CS on day 1 who experienced pain during the treatment period. The diagnosis determined is Acute Pain related to a Physical Injuring Agent (caesarean section surgical procedure: disconnection of tissue incontinence). The intervention carried out is the application of foot massage therapy, observation of the pain scale and vital signs as well as collaboration for further action. Evaluation after the procedure, the pain decreased, there were no signs of infection

Conclusion : After doing foot massage for 3 days for 15-20 minutes, it showed a reduction in pain in postpartum Sectio caesarea patients.

Keywords : Sectio Caesarea, Postoperative Pain, Foot Massage

BREASTFEEDING SELF-EFFICACY FOR SUCCESSFULL BREASTFEEDING PRACTICE IN BANDAR LAMPUNG

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Objectives

The practice of exclusive breastfeeding often becomes a big problem for breastfeeding mothers, especially for primiparous women. This problem can be caused by several factors, such as knowledge, social support, self-confidence to breastfeed or breastfeeding self-efficacy (BSE). The purpose of this study is to the correlation between working women's success in receiving exclusive breastfeeding care at the Korpri Health Center in Bandar Lampung City and their level of breastfeeding self-efficacy.

Methods

A cross-sectional research design is used in this study. Total population 256 breastfeeding women in the Korpri Health Center work area in Bandar Lampung City and by using Slovin the sample size is 38 respondent. Data collection was done by The Breastfeeding Self-Efficacy Short Form (BSE-SF), a set of 14 questions designed to assess breastfeeding self-efficacy. Postpartum moms between the ages of 6 and 24 months and willing to participate in the study were the inclusion criteria. Bivariate analysis by using the chi-square test, while univariate analysis uses a frequency table to characterize the characteristics of respondents.

Results

There were 14 respondent (36.8%) who exclusively breastfed, and there were 24 respondent (63.2%) who did not exclusively breastfed he result of this study show that there is a relationship between exclusive breastfeeding and breastfeeding self-efficacy (p-value < 0.05).

Conclusion

BSE is veritably important. For successfull breastfeeding practice mothers apart from having to get support from their husbands, from the workplace, and from health workers, must also get support to increase BSE.

SMARTPHONE USAGE AND RISK OF TENSION-TYPE HEADACHE INCIDENCE IN SORONG, SOUTHWEST PAPUA: A HOSPITAL-BASED STUDY

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Along with the advancement of technology, the use of smartphones has become integrated into daily life. However, excessive use of these devices can lead to health problems, one of which is associated with the occurrence of headaches. Tension-type headache (TTH) is the most common headache with estimated prevalence rate of 40% among the total adult population worldwide. TTH is typically associated with mild symptoms and are considered relatively mild by society. However, some individuals with TTH often experience severe pain, which reduces their ability to engage in daily activities at work, school, and even at home.

Objectives

This research was aimed to analyze the relationship between smartphone usage and tension-type headache incidence in patients at Sorong hospital

Methods

This was a quantitative observational study with cross-sectional design. A total of 135 headache patients were included. All participants were interviewed and analyzed using headache screening questionnaire (HSQ) with scoring equal to 8 was considered as TTH. Statistical analysis were done using chi-square tests.

Results

Study showed that 79 subjects (58.5%) had tension-type headache. Significant relationship were observed regarding duration (p=0.04), frequency (p=0.02), and subject's head position (p=0.03) of smartphone usage with the incidence of tension-type headache.

Conclusion

Smartphone usage played a role in tension-type headache incidence among patients in Sorong hospital.

ACCESS DISTANCE TO ANTENATAL CARE ON STUNTING: EVIDENCE FROM THE TAMPA PADANG COMMUNITY HEALTH CENTER REGION, 2020-2021

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Objectives:

Indonesia's stunting rate ranks high globally, with West Sulawesi Province being a significant contributor. The Tampa Padang Health Centre region faces challenges in ensuring adequate antenatal care (ANC) access for pregnant women due to geographical factors and population distribution. Therefore, the objective this study to investigated the relationship between historical access distance to ANC examinations and stunting prevalence in the Tampa Padang Health Centre region.

Methods: A cross-sectional observational approach was used in this study to investigate history of access distance to the pregnant women. Participants were chosen at random from among the pregnant women living in Tampa Padang's community services area using cluster random sampling. Women had to meet specific inclusion requirements, such as having full antenatal care (ANC) records and being enrolled in community health centre between 2020 and 2021. The study excluded women with inconsistent ANC or miscarriages.

Results: It was found that approximately 260 children at Tampa Padang area were stunted. The greatest amount of stunting is shown when a person walks a distance of 0.27 to 10.7 km and the average access distance to health services was 6.3156 km. By Mann-Whitney alternatif statistical analyzed, a significant association was found between historical access distance to ANC examinations and stunting prevalence (p-value = 0.000).

Conclusion: Prenatal care has a substantial influence on stunting rates in Sulawesi Barat and is associated with child health services. Therefore, improving accessibility to health care services is crucial for addressing stunting in this area.

PATTERNS OF RUNNING PHYSICAL ACTIVITY, NUTRITIONAL STATUS, AND DIETARY COMPOSITION IN A COMMUNITY OF RECREATIONAL MARATHON ATHLETES IN MALANG

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Objectives

The recreational marathon running community in Malang has shown increasing participation, but the challenges related to their nutritional status and food composition are not well understood. This study aims to examine physical activity patterns, nutritional status, and food composition in this community.

Methods

This quantitative descriptive study involved 60 respondents from the Run Malang Run community who filled out an online questionnaire regarding demographic data, physical activity patterns, nutritional status, and food composition. Data were analyzed using descriptive methods with SPSS version 26.

Results

The majority of respondents were male (61.7%) with an average age of 25.86 years. Most of them ran 3-4 times per week with an average distance of 26.16 km per week. The average BMI of respondents was 23.20 kg/m², with most in the normal category (51.7%). The composition of morning, afternoon, and evening meals showed that complex carbohydrates and animal protein were the main components, but vitamin and mineral intake was still less than optimal.

Conclusion

Although athletes showed good physical activity patterns, there were gaps in micronutrient intake that could affect long-term performance and health. Interventions such as nutrition education and access to nutritious foods are needed to improve athlete health and performance outcomes. These findings highlight the importance of appropriate nutritional support in supporting the recreational marathon athlete community.

Keyword: Nutritional Status, Dietary Composition, Recreational Marathon Runners, Physical Activity Patterns, Athlete Nutrition

ANALYSIS OF THE RELATIONSHIP BETWEEN TYPE 2 DIABETES MELLITUS AND THE RISK OF FALLS IN ELDERLY PATIENTS AT SYEKH YUSUF REGENCY, GOWA REGENCY

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Objectives

The study aims to determine whether there is a relationship between Fasting Blood Glucose (FBG) levels and the risk of falls in DM patients at RSUD Syekh Yusuf Kabupaten Gowa

Methods

The study used a cross-sectional design with primary data collection through interviews using the Morse Fall Scale (MFS) and secondary data from medical records. The sample consisted of elderly patients with DM at RSUD Syekh Yusuf Kabupaten Gowa who met the inclusion criteria.

Results

The study found that among 15 respondents with controlled FBG levels, 23.1% had a low risk of falls according to the MFS, 33.3% had a moderate risk, and 46.7% had a high risk. Meanwhile, among 35 respondents with uncontrolled FBG levels, 5.7% had a low risk of falls according to the MFS, 68.6% had a moderate risk, and 25.7% had a high risk. The Chi-square statistical test results showed that the p-value was 0.054 ($\alpha > 0.05$).

Conclusion

There is no significant relationship between FBG levels, number of medications, and gender with the risk of falls in DM patients at RSUD Syekh Yusuf Kabupaten Gowa.

Body Mass Index as a Risk Factor for Hypertension in the Elderly: A Cross-Sectional Study in Benjor, Malang

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ABSTRACT

Hypertension is a leading cause of death globally and is the third leading cause of death after stroke. Body Mass Index (BMI) has a significant impact on the occurrence of hypertension, with overweight or obese individuals being at a higher risk compared to those with a normal BMI. This study aimed to analyze the relationship between BMI and hypertension among the elderly in Benjor. A cross-sectional study design with purposive sampling was employed, involving 72 participants. Data on blood pressure, weight, and height were collected. Spearman's correlation test was used to analyze the data at a significance level of $\alpha = 0.05$. The results showed that the Spearman's correlation test revealed a significant positive correlation between BMI and hypertension among the elderly. This study concludes that a higher BMI is associated with an increased risk of hypertension among the elderly in Gayungan Village, Surabaya. It is recommended that the elderly engage in regular physical activity, maintain a healthy diet, and adopt a healthy lifestyle to prevent and manage hypertension.

Keywords: BMI, hypertension, elderly

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Objectives

Kartagener's syndrome is a subset of primary ciliary dyskinesia, an autosomal recessive inherited disorder characterized by the clinical triad of chronic sinusitis, bronchiectasis, and situs inversus. Abnormal ciliary structure or function leading to impaired ciliary motility is the main pathophysiologic problem in Kartagener's syndrome.

Case Presentation

A 23-year-old man from Polewali town, Makassar South-Sulawesi , presented to University of Hasanuddin with recurrent episodes of cough for 2 weeks and chest discomfort, and productive cough for more than a decade. Clinical and imaging findings revealed chronic sinusitis, bronchiectasis, dextrocardia, and situs inversus. He was treated with orally administered antibiotics, mucolytic, and chest physiotherapy. He was symptomatically better with the above therapy, and started on a long-term low-dose prophylactic antibiotic.

Conclusion

Patients with Kartagener's syndrome exist in Makassar as cases of chronic recurrent sinopulmonary infections. As there is no easy, reliable non-invasive diagnostic test for Kartagener's syndrome and the correct diagnosis is often delayed by years, it may cause chronic respiratory problems with reduced quality of life. Genetic counseling and fertility issues should be addressed once Kartagener's syndrome is diagnosed.

Keywords : Kartagener's syndrome, Primary ciliary dyskinesia, Bronchiectasis, Situs inversus

Enhancing Athlete Performance with Mobile Health Applications: Benefits and Challenges

Ronal Surya Aditya

Abstract

Introduction:
Mobile health applications have gained significant attention in recent years due to their ability to enhance athletic performance, prevent injuries, and support overall health management. By integrating advanced technologies, these applications provide athletes with personalized exercise plans, real-time monitoring of physiological and psychoemotional indicators, and immediate feedback. However, challenges such as user adherence, personalization, and privacy concerns persist, requiring further exploration.

Method:
This study employed a systematic literature review (SLR) using the PRISMA framework to identify, screen, and synthesize peer-reviewed studies published between 2013 and 2023. Databases including PubMed, Scopus, and Web of Science were searched using terms such as "mobile health applications," "athlete performance," and "privacy compliance." Eligible studies focused on mobile health applications specifically designed for athletes, addressing features like personalized plans, monitoring, and data security. Quality assessments were performed using the Cochrane Risk of Bias Tool and the Newcastle-Ottawa Scale.

Results:
The review identified that mobile health applications significantly improve athletic performance, injury prevention, and motivation through personalized exercise plans and real-time feedback. However, persistent challenges were noted, including difficulties in personalizing plans for diverse athletes, ensuring user adherence, and addressing privacy and security concerns related to data handling. The findings underscore the need for robust privacy mechanisms and interdisciplinary collaboration to optimize these applications.

Conclusion:
Mobile health applications play a vital role in enhancing athletes' physical and mental well-being. However, addressing challenges such as personalization, adherence, and data security is essential to their continued success. Future research should focus on advancing AI-driven personalization, improving user engagement, and strengthening privacy safeguards to maximize the potential of these applications in athletic health management.

"UNEXPECTED RELAPSE POST-PIP ARTHROPLASTY IN A YOUNG ADULT: A CASE OF RECURRENT JOINT INSTABILITY

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Introduction

The most prevalent autoimmune rheumatic illness is rheumatoid arthritis (RA), which is defined by progressive joint destruction, persistent systemic inflammation, and related comorbidities. Many patients eventually have major morbidity, functional limitations, and joint abnormalities despite advancements in treatment. This illness can have especially severe long-term social and economic effects on young individuals. This case study highlights the difficulties in treating RA-related joint degeneration in young people by describing a 21-year-old female patient who experienced recurrent joint instability after proximal interphalangeal (PIP) arthroplasty.

Case Presentation

Three months after having her left hand's fingers II, III, and IV replaced with a PIP arthroplasty, a 21-year-old woman who had been diagnosed with RA ten years earlier complained of joint discomfort and stiffness in her hands and feet. Her symptoms, which included stiffness in the morning and irregular fever, had remained even after surgery. After surgery, the patient was begun on methylprednisolone; nonetheless, joint pain and instability persisted, necessitating additional assessment. Increased inflammatory markers were found in the laboratory, including high ESR (101 mm/hr), positive rheumatoid factor (64 IU/ml), and CRP (48 mg/dl). The DAS28 (7.54) and CDAI (53.5) measures of disease activity both showed substantial disease activity. The patient's symptoms improved after receiving treatment with methotrexate, methylprednisolone, and supportive drugs.

Conclusion

This case serves as an example of the difficulty in treating RA in young individuals, especially when joint instability occurs after surgery. After PIP arthroplasty, patients may relapse or develop joint instability despite rigorous medical management. To maximize outcomes, extensive long-term follow-up and comprehensive treatment modalities are required.

Short Counselling Program Enhances Health Care Workers' Knowledge and Attitude in Early Detection of Stunting in Children: Influencing Factors

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ABSTRACT

Indonesia's stunting prevalence remains higher than the WHO stunting prevalence standards for developing countries. Health community workers (HCWs) handle this issue effectively and contribute to the growth of community and primary healthcare systems. The aim of this study was to identify the effect of *HCWs Counseling Program* on the knowledge and attitude of HCWs toward early detection of childhood stunting. A quasi experimental research design with pre-test and post-test was employed. 40 *Posyandu* HCWs from working group IV (Pokja IV) cadres in Sumbersekar Village, Dau District, Malang Regency, East Java, Indonesia, are taking part. For data collection, the Indonesian version of the attitude questionnaire was used. HCWs Counselling Program has a statistically significant effect in improving attitudes toward early detection of stunting. Counselling Program on health community workers is effective in improving knowledge and attitudes toward early childhood stunting detection. Improving HCWS knowledge and attitudes toward early detection of childhood stunting is critical because they play an essential part in the delivery of effective interventions to reduce stunting in children.

Keywords: Health community workers; stunting early detection; counselling program; attitude; behavior.

Analysis of Potential α-Amilase Inhibitor in Nyale Worm (*Eunice* sp.) Extract for Anti-Diabetic Target: An In-Silico Approach

Authors

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ABSTRACT

Diabetes mellitus is a significant global health problem characterized by chronic hyperglycemia and associated with a variety of complications. The search for effective and safe antidiabetic agents has prompted researchers to explore natural sources, including marine organisms. This study investigated the potential α-amylase inhibitors derived from the extract of the Nyale seaworm (*Eunice* sp.) using an in-silico approach. The study using the molecular docking technique was carried out to analyze the interaction between bioactive compounds extracted from the Nyale seaworm (*Eunice* sp.) and identified its compound content using Gas Chromatography-Mass Spectrometry (GC-MS) and the target protein involved in diabetes management is α-amylase. The study aims to identify potential ligands that can effectively inhibit α-amylase activity, thereby contributing to blood glucose regulation. In-silico analysis not only provides insight into binding mechanisms but also highlights the importance of computational methods in drug discovery that enable rapid screening of bioactive compounds. Further experimental validation is needed to confirm this in-silico prediction and assess the therapeutic feasibility of this compound as an antidiabetic agent. Based on the molecular docking results, the binding affinity values of each compound were obtained as follows: Tricyclo[8.6.0.02,9]hexadeca-3,15-diene -7.8 kcal/mol, congenital ligand -7.8 kcal/mol, Tricyclo[10.2.1.02,11]pentadeca-4,8-diene -7.5 kcal/mol, dythol -8.6 kcal/mol, Octadec-9-enoic acid -5.6 kcal/mol, Ethyl arachidonate -5.6 kcal/mol, Margaric acid -5.5 kcal/mol, Linoleic acid -5.5 kcal/mol. Tricyclo[8.6.0.02,9]hexadeca-3,15-diene-has a binding affinity value (7.8 kcal/mol) equal to the innate ligand -7.8 kcal/mol, dythol compound has the lowest binding affinity value (-8.6 kcal/mol), Tricyclo[10.2.1.02,11]pentadeca-4,8-diene has a binding affinity value (7.5 kcal/mol) close to the innate alpha amylase ligand. The analysis showed that several compounds from the Nyale seaworm (*Eunice* sp.) exhibited promising characteristics as α-amylase inhibitors, thus making them potential candidates for the development of anti-diabetic therapies. Further experimental validation is recommended to confirm its efficacy and safety in a biological context.

Keywords: Diabetes Mellitus, *Eunice* sp., alpha-amylase, molecular docking, antidiabetic.

THE EXPRESSION OF SUBUNIT P65 NF-KB ON NEURON AFTER SUPPLEMENTATION OF ROSE PETAL YOGHURT AND MODERATE INTENSITY EXERCISE IN HIGH GLYCOTOXIN DIET INDUCED RAT

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Objectives:
The aim of this study is to determine NF-kB activity in neural tissue by assessing expression of sub unit p65 in neuron after suplementation of rose petal yoghurt and moderate intensity exercise in high glycotoxin diet induced rat.

Methods:
This experimental study was post test-only control group design. We used 30 white male rats (*Rattus norvegicus*) Wistar strain, divided into 5 groups. Group KN was given standar diet, KP was treated with high glycotoxin diet, KA was treated with high glycotoxin diet and combination of rose yoghurt and moderate exercise, KB was given high glycotoxin diet dan rose yoghurt, and KC group was treated with high AGEs diet and moderate exercise. Induction by high glicotoxin diet was given for 12 weeks. The diet stimulation was given for 12 weeks and the treatment start at 8 weeks. After 12 weeks all subjects were terminated and brains and blood removed, then being investigated. Analyses were performed using immunohistochemistry to determine the expression of NF-kB/p65 in brain tissue and IL-6 level was assessed using ELISA technique,

Results:
High glycotoxin diet stimulation increased expression of NF-kB/p65 in the brain tissue. It showed that KP has the highest NF-kB/p65 expression among other groups (mean: 501.936 ± 57.04 arbitrary unit). It also has corelation with the IL-6 level in brain, that also increase in KP groups (mean: 14.9 ± 6.5 ng/dL). Suplementation with combination of rose petals and moderate intensity exercise can altered expression of sub unit p65 and production of IL-6, but among 3 treatment groups, moderate intensity exercise only group has lower expression of NF-kB/p65 (mean: 251.78± 21.7 arbitrary unit) and also lowest IL-6 level (mean: 3.81 ± 1.8 ng/dL). ANOVA result shows that there's significant difference among each group (p = 0.000) and based on the post hoc result shows that KC group has most prominent result.
Conclusion:
The suplementation of rose petal yoghurt and moderate intensity exercise can alter the expression of NF-kB/p65 in the brain tissue and IL-6 level in high glycotoxin diet induced rat.

Keywords: sub unit p65, NfkB, glycotoxin, moderate intensity exercise, neurodegenerative