Abstract Book

The 4th Colored Conference on Cardiovascular Disease



Optimizing Collaboration to Improve Cardiovascular Diseases Outcomes in Developing Country

October 25th to 26th, 2023



Organized by

Faculty of Medicine Universitas Islam Indonesia JI. Kaliurang Km 14.5, Yogyakarta Indonesia



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Abstract Book



Optimizing Collaboration to Improve Cardiovascular Diseases Outcomes in Developing Country

October 25 to 26, 2023



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Committe Layout

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Welcome Address

Welcome Address from Chairperson of the Organising Committee

Ladies and gentlemen, keynote speaker, invited speakers, distinguished guests, and all participants; healthy greetings to all of us.

Assalamualaikum wa rahmatullahi wabarakatuh

Peace be upon us

Praise be to Allah for the blessings of health so that we can welcome you all to the Fourth *International Conference on Cardiovascular Diseases* (ICCVD). We are excited to bring together leading experts and researchers in the field of cardiovascular disease to share their latest findings and insights. This virtual conference is expected to be a platform for networking, collaboration, and knowledge exchange among participants from all around the world.

Under the theme "Optimizing Collaboration to Improve Cardiovascular Disease Outcome in Developing Countries,", hopefully this conference will provide an excellent forum for researchers, practitioners, and academicians through discussion, exchange, and sharing on the latest research and innovations.

We expect that this forum will also be a place to discourse about the best ways to treat different cardiovascular diseases from around the world and how important it is for professionals from different fields to work together on case management through interprofessional-collaboration (IPC).

In order to achieve that purpose, we should learn from the past, analyze the present, and then come up with new ideas, scenarios and visions for the future. We envisage to access the vast amount of worldwide experience that has been gained in the field so far.

With this goal in mind, the 4th ICCVD was intended not only as a tool that was based on scientific principles but also it primarily focused on how it could be used. The ICCVD also has a lightweight, non-bureaucratic structure that lets us center on a wide range of topics, respond quickly to important issues in the field of cardiovascular disease management, and talk to other professionals in a clear way.

It is an honor for Faculty of Medicine Universitas Islam Indonesia to host of the 4th International Conference on Cardiovascular Disease in 2023. Therefore, we once again welcome and thank all participants for attending this forum. Hopefully it will bring benefits to all of us and also contribute to the betterment of the world. *Amin ya Rabbal Alamin*.

Have a nice conference!

Wassalamualaikum warahmatullahi wabarakatuh

The Chair of the 4th ICCVD

Dr.dr. Titis Nurmasitoh, M.Sc



Message from Dean of Faculty of Medicine UII

Assalamu'alaikum wa rahmatullahi wabarakatuh.

Praise be to Allah for the blessings so that we can conduct the Fourth International Conference on Cardiovascular Diseases (ICCVD).

The theme of our conference is "Optimizing Collaboration to Improve Cardiovascular Diseases Outcomes in Developing Countries".

Cardiovascular disorders are still the highest cause of death throughout the world. Data from the World Health Federation (WHF) shows that deaths due to cardiovascular disease have increased sharply from 12.1 million in 1990 to 20.5 million in 2021. As many as four out of five deaths due to cardiovascular disease occur in low- and middle-income families. countries, and up to 80 percent of heart attacks and strokes can be prevented earlier. This is why it is important for us to emphasize the importance of protecting society from cardiovascular disorders.

Several factors are known to contribute to the emergence of cardiovascular disorders, including metabolic disorders including diabetes mellitus, blood pressure, cholesterol levels, daily nutritional intake, and various unhealthy lifestyles. Knowledge regarding various preventive measures, providing appropriate therapy, and rehabilitation for cardiovascular disorders, is important for medical and paramedical personnel to understand. Providing appropriate action for each condition will increase success and thus reduce the death rate.

Management of cardiovascular disorders at various levels of health services involves personnel from across fields: doctors, paramedics, nutritionists, pharmacists, and many other health disciplines. Collaboration between scientific fields, professions, and interprofessional collaboration is necessary so that people get the best quality health services. With comprehensive management, the outcome of cardiovascular disorders will be better. This conference is expected to be a joint effort to increase knowledge regarding the importance of inter-professional collaboration in the prevention and management of various cardiovascular disorders.

We would like to thank the resource persons who were willing to share their knowledge and experiences at this conference. To the participants, enjoy the conference, hopefully it will bring benefits to all of us.

Wabillah Taufiq wal hidayah,

Wassalamu'alaikum wa rahmatullahi wa barakatuh

Dean FK UII

Dr.dr. Isnatin Miladiyah, M.Kes



Rundown

DAY 1 (October 26th, 2023)

Time GMT+7	Speakers and topics		
08.00 to 08.30	Registration		
08.30 to 09.15	Opening ceremony	 Opening from MC Qur'an Recitation National Anthem "Indonesia Raya" Hymne of UII Welcome speech from Dean faculty of medicine UII Opening Speech from Rector UII Photo Session 	
09.15 to 09.20	Freeze		
	Keynote speech		
09.20 to 10.15	Keynote Speech: Prof. dr. Ali Ghufron, M.Sc, PhD Chief Direction of BPJS Kesehatan Topic: Health transformation for preventing CVD catastrophe Saman Dance Prof. Shanthi Mendis, MBBS, MD, FRCP, FACC (GMT+2) Topic: Addressing the challenges of CVD problems in developing	MC	
	Countries		
10.15 to 10.20	Freeze		
Plenary Session 1			
Topic: Hypertension control; lesson learned from developing countries			
10.20 to 11.20	 Prof. Dr. Abdul Rashid Abdul Rahman, Ph.D (GMT+8) Dr. Muhammad Mustapha Yaqub, (Consultant Cardiologist) (GMT+1) Prof. Dr. dr. Budi Yuli Setianto, Sp.PD(K), Sp.JP(K) 	Moderator	
11.20 to 11.50	Prof. Dr. Wah Yun Low, Ph.D. AFBPsS, FBSCH, CPsychol (GMT+8) Topic: Leveraging On Digital Technologies in Cardiovascular Diseases Prevention		
12 25 to 12 00	Lunch and Braving time		
12.35 (0 13.00	Denary Session 2		
Topic: Recent Updates on Current and Upcoming Diagnostic for CVD			
13.00 to 13.30	1. Prof. Sik Yin Roger Foo, MBSS, MD, FRCP, FACC (GMT+8) Topic: Diagnostic potential of RNAs as biomarkers in human CV diseases	Mederator	
13.30 to 14.00	2. Prof. Dr. dr. Ismail Setyopranoto, Sp.S (K) Topic: An updated screening tools for stroke in emergency Setting	woderator	
14.00 to 14.30	Discussion Q&A		
14.30 to 16.00	Oral and Poster Presentation	Breakout room	



DAY 2 (October 27th, 2023)

Time GMT+7	Speakers and topics		
07.30 to 08.00	Registration		
08.00 - 09.30	Oral and Poster Presentation		
	Plenary Session 3		
	Topic: Current management on diabetic foot		
09.30 to 09.50	 dr. Erlina Marfianti, M.Sc, Sp.PD Topic: Integrative management on diabetic foot 		
09.50 to 10.10	 Dr. dr. Darmawan Ismail, Sp.BTKV (K) Topic: Endovascular intervention for prevention of amputation in diabetic foot 	Moderator	
10.10 to 10.30	3. Ns. Haryanto., S.Kep., MSN., Ph.D., WOC/ET(N) Topic: Home care nursing for diabetic foot		
10.30 to 11.00	Discussion Q&A		
11.00 to 11.05	Freeze		
	Plenary Session 4		
	Topic: Optimizing Prevention of Adolescent Obesity as a CVD Ris	k Factor	
11.05 to 11.25	 dr. Rina Agustina, M.Sc, Ph.D Topic: Current issues on adolescent obesity in developing countries 		
11.25 to 11.45	2. dr. Agussalim Bukhari, M.Med., Ph.D, Sp.GK Topic: Nutrition therapy for adolescent obesity		
11.45 to 12.05	 Dr. Shagufta Feroz, M.B.B.S., M.C.P.S., PHD(HN), PhD (IM) USA, IM Fellowship (USA) (GMT + 5) Topic: Lifestyle and behavior modification in Obesity 	Moderator	
12.05 to 12.25	4. Prof. dr. Tahira Sadiq, MBBS, MPH, PGD, MHPE Topic: Nutrition Education to Prevent Adolescent Obesity		
12.25 to 12.45	Discussion Q&A		
12.45 to 13.00	Lunch and Praying time		
Plenary Session 5 Topic: Key message strategies to Improve Interprofessional Collaboration in CVD care			
13.0 to 13.20	 dr. Umatul Khoiriyah, M.Med.Ed, Ph.D Topic: Pre-service IPE/C training: addressing the challenges 		
13.20 to 13.40	2. Dr. dr. Afif Nur Hidayati, Sp.KK(K), FINSDV, FAADV Topic: IPC in clinical setting: best practices	Moderator	
13.40 to 14.00	3. Prof Timothy F Chen PhD, DipHPharm, BPharm, FFIP, FPS, FANZCAP, ARPharmS Topic: Recent focus on IPE/C Research		
14.00 to 14.30	Closing ceremony - appouncement for the best and paster	NAC .	
14.30 (0 15.00	presentation	IVIC	



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02.2	Dewi Muthia Charissa Akhyudi, SKM	Age, Systolic Blood Pressure and Abdominal Obesity as The Risk Factor of High Random Blood Glucose Level in Pesantren II	02
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P3.3	Muflihah Rizkawati	Anti-Atherosclerosis Potential of Polyphenolic Compounds from Propolis: A Scoping Review	P3
P3.4	Pariawan Lutfi Ghazali, dr. M.Kes	Correlation Of Serum Uric Acid Levels With Severity Of Hypertension In Pre-Elderly And Elderly People	Р3
P3.5	Rizki Fajar Utami	Correlation of visceral fat and subcutaneous adipose tissue with fasting blood glucose level in Indonesian young adults	Р3
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Keynote speech

Addressing the challenges of CVD problems in developing Countries

Prof. Shanthi Mendis, MBBS, MD, FRCP, FACC Former Senior Adviser, World Health Organization, Consultant, Global Health Geneva, Switzerland

ABSTRACT

Cardiovascular Diseases (CVD) are the leading causes of morbidity and mortality worldwide. Continuing exposure to behavioural and environmental risk factors, ageing of populations, globalization of trade and population growth are driving the CVD burden. Annually, CVD accounts for an estimated 17.9 million deaths, including premature deaths between 30-70 years. Most premature cardiovascular deaths are in developing countries, negatively impacting economic growth and development.

There are many challenges in addressing the CVD burden. Current capacities for surveillance are inadequate and require strengthening. Prevention is complex because the conventional health sector has little sway over CVD risk factors -tobacco and alcohol use, physical inactivity, unhealthy diet and air pollution. Inadequately resourced Ministries of Health in developing countries cannot provide leadership to multisectoral action required for implementing prevention policies. In addition, powerful commercial entities continue to undermine NCD prevention policies. Further, financial, health system and health workforce constraints in developing countries are significant impediments to the prevention and control of CVD. Finally, developing countries try to implement strategies that are exported from high- income countries which are sustainable only in high resource settings.

When resources are limited, high-impact, affordable interventions must be prioritized. World Health Organization's (WHO) best buys are cost-effective prevention and treatment interventions targeting tobacco, alcohol, physical inactivity, unhealthy diet, hypertension, diabetes and prevention of recurrent vascular attacks in those with established CVD (1). Joined-up, rather than single risk factor programs, are more appropriate in primary health care to improve detection and control of hypertension and diabetes, which are comorbidities. A total risk approach (WHO best buy) enables treatment and referral decisions based on the risk of heart attacks and strokes. In estimating the risk, it considers all cardiovascular risk factors in the individual: hypertension, diabetes, hyperlipidemia, tobacco smoking, overweight, established CVD and family history.

WHO tools and simplified protocols for implementing this intervention in primary health care (2), also identify individuals with previous heart attacks and strokes to ensure the continuation of drug treatment (secondary prevention). The total risk approach is being implemented in many developing countries and is already included in the basic benefit packages in universal health coverage initiatives. Despite limited resources, developing countries have to take action to accelerate the prevention and control of CVD by prioritizing and financing this core set of interventions that can significantly reduce heart attacks and strokes.

References

1.World Health Organization. (2017). Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. https://apps.who.int/iris/handle/10665/259232.

2. World Health Organization. Implementation tools: Package of essential noncommunicable (PEN)disease interventions for primary health care in low-resource settings. World Health Organization; 2013. https://apps.who.int/iris/handle/10665/133525



Hypertension control; lesson learned from developing countries

Abdul Rashid bin Abdul Rahman *MBChB, PhD, FRCP, FHNAM, FAsCC* An Nur specialist Hospital and University of Cyberjaya , Malaysia

ABSTRACT

Hypertension remains the leading cause of death worldwide. The burden of disease is greatest in the developing world especially in east and south east Asia. Unfortunately hypertension remains poorly controlled especially in the low and middle income countries. This unfortunately will translate into many pre mature cardiovascular events in these countries. If not handled systematically this will lead to the worsening of the current cardiovascular epidemic.

Systematic approach to improving hypertension control begins with increasing awareness and improving treatment rates. Once treated , patients' blood pressure must be optimally controlled. Suboptimum management of CV risk factors especially hypertension contributes to more than 80% of cardiovascular death . Countries which are serious about achieving optimal hypertension control must device an integrated strategic plan which must include a multi ministerial ' all of government and all of society approach ' , collaboration involving non governmental organizations and investing into relevant research especially periodic surveys to monitor prevalence, awareness, treatment and control rates.

The weakest link in achieving optimum BP control must be identified and rectified. This include understanding psychosocial behaviours of patients and doctors. This will address shortfalls in patients medication adherence and doctors treatment inertia. Identifying these will allow us to device intervention strategies to improve patients' medication adherence and overcome treatment inertia among doctors.

Lastly the health system of a particular country plays an important role in achieving optimum hypertension control . A health system which allow accessibility to health facilities , wide availability of affordable treatment including single pill combinations and empowering primary care and public health are more likely to succeed than those who do not. I will discuss success stories from a developed country (Canada), and a developing country (Malaysia) in my presentation

Main reference

Khalid Yusoff, Azlina Razak, Abdul Rashid Abdul Rahman, Feisul Mustapha, Martin McKee

Hypertension control: lessons from Malaysia, an upper-middle-income country

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Hypertension control; lesson learned from Nigeria

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ABSTRACT

Hypertension is a leading risk factor for cardiovascular disease worldwide. Low- and middle-income countries (LMICs), including Nigeria, appear to be worst hit, with relatively higher number of cases and limited awareness, treatment, and control rates, against the trend observed in developed countries. In Nigeria, hypertension is the most frequently diagnosed Cardiovascular risk equivalent, with Hypertension-related complications accounting for approximately a quarter of emergency admissions in urban hospitals.

An online search into studies conducted in the country and various regions of the country showed a significant improvement in hypertension awareness due to the concerted efforts of the healthcare team in taking public awareness of hypertension and its complications to the nooks and crannies of the country. Treatment was also found to have improved over the last two decades. Control of hypertension which is defined as values below the defined threshold of 140/90mmhg in an individual on antihypertensive has not significantly improved as percentages range from 2% to 12%.

Hypertension, a prevalent health issue in Nigeria, requires more effective control strategies with emphasis on public awareness, healthcare infrastructure, access to healthcare, lifestyle modifications, and medication adherence. The integration of these components is vital for successful hypertension control, aiming for improved health outcomes and reduced burden on the healthcare system. From the results available, more persons are aware of their hypertension status by the efforts of stakeholders, however clinical treatment and control rates, remain low. These estimates are relevant for clinical care, population, and policy response in Nigeria.

Key words: hypertension, cardiovascular disease, cardiovascular risk equivalent, LMIC.



Hypertension Control: Lessons from Indonesia

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ABSTRACT

Hypertension is a global health crisis, affecting morbidity, mortality, and healthcare expenses, notably in Indonesia. This condition is a peril to vital organs, necessitating urgent intervention. In 2018, Indonesia reported a prevalence of 34.1%—a stark increase from 27.8% in 2013—highlighting the need for immediate action.

The Indonesian Hypertension Doctors Association (PERHI), representing cardiology, nephrology, and neurology, leads the fight against hypertension. Their approach encompasses promotion, prevention, treatment, and rehabilitation, founded on evidence-based principles. Through research and international collaboration, PERHI remains at the forefront of hypertension management.

The evolution of hypertension data and research steered updates in management guidelines, notably the 2020 ISH Guidelines. PERHI's commitment to aligning these guidelines with local needs ensures practical, context-sensitive hypertension management. Key aspects include precise blood pressure measurement, lifestyle modifications, risk control, and a tiered referral system, optimizing cost-effective care.

Effective implementation requires coordination across healthcare services and government programs, particularly Posbindu and Puskesmas. The Indonesian Hypertension Management Consensus by PERHI, updated in 2021, serves as a vital resource for healthcare professionals, underscoring Indonesia's strides in hypertension control.

Keywords: Hypertension, Indonesia, healthcare, prevention, PERHI, evidence-based, guidelines, research, collaboration, management, implementation, Posbindu, Puskesmas.



Leveraging On Digital Technologies in Cardiovascular Diseases Prevention

Prof. Dr. Wah Yun Low, Ph.D. AFBPsS, FBSCH, CPsychol

ABSTRACT

WHO noted that noncommunicable diseases cause nearly three quarters of deaths in the world. There are four major NCDs: cardiovascular diseases (heart disease and stroke), cancer, diabetes, and chronic respiratory disease. Their drivers are social, environment, commercial and genetic, and their presence is global. Cardiovascular diseases (CVDs) are the number 1 cause of death globally, and accounts for 20.5 million deaths in 2021. Four out of 5 CVD deaths are due to heart attacks and strokes, and one third of these deaths occur prematurely in people under 70 years of age. Most of these CVDs can be prevented by addressing behavioural risk factors, such as tobacco use, unhealthy diet and obesity, physical inactivity and harmful use of alcohol. Digital health tools are playing an important role in controlling and managing CVDs. Digital use of public health messaging through social media and gamification are important in creating further awareness and improving health literacy, healthier and active lifestyle (e.g. wearable fit bit, etc.) and patient empowerment. Digital screening and diagnosis of CVDs is also being used in countries to combat CVDs, e.g. the uptake of CVD health screening can also be improved through digital means. In Malaysia, the KOSPEN, a community health program in preventing and controlling NCDs by the Ministry of Health, has integrated digital screening in the program. In the UK, they have the digital self-diagnosis application tool and this reduces the burden of primary healthcare services. Due to the digitalization of healthcare, there is a need for more collaboration between government and the IT industries, esp for the purpose of development of such health digital devices and software applications and integrated health data storage and sharing. Digital health technologies are solutions in improving one's health and healthcare delivery, including the prevention and control of CVDs.



Diagnostic potential of RNAs as biomarkers in human CV diseases

Prof. Sik Yin Roger Foo, MBSS, MD, FRCP, FACC

ABSTRACT

RNA as a nucleic acid has now been discovered in myriad forms, including microRNA, long non-coding RNA, circular RNA. In the circulation as a form of biomarker, these may be free floating or enclosed in exosomes. They lend themselves to a big opportunity for biomarker discovery. My talk will cover what these RNA forms are, and what has been studied for biomarkers in cardiovascular disease. But in a departure from the title, I will cover the even more inspirational aspect of RNA therapeutics where this newly developed biologic is offering itself as a new way to treat diseases such as with RNAi, siRNA, microRNA and translating circular RNA. The mRNA COVID vaccines have so far proven that RNA is safe to administer, so it is not surprising that the horizon is full of exciting new RNA therapies heading to the clinic.



An Updated Screening Tools For Stroke in Emergency Setting

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ABSTRACT

For each of us privileged to care for patients with acute stroke, it all begins when the pager goes off. From the earliest days of residency, the acute stroke page sets in motion a sequential confluence of anxiety and adrenaline, apprehension and alertness, and, with proper training and experience, the application of acumen and alacrity to whatever stroke scenario we encounter. Navigating the oft-tortuous path of an acute stroke alert necessitates the ability to focus one's observational attention, listen intently for key aspects of the history, and remain aware of the team environment in order to facilitate a swift, efficient, and accurate assessment. The latter requires a focused neurologic examination, rapid interpretation of brain imaging, and a thorough knowledge of stroke syndromes and common mimics.

Initial clinical assessment remains the cornerstone in the diagnosis of stroke and TIA. Further investigations and brain imaging are undertaken to confirm the diagnosis and are essential for a decision on intervention, but the initial assessment at a minimum determines whether the patient has acute, focal or neurological deficits. There are a number of clinical assessment tools available for emergency department staff, such as FAST, Recognition of Stroke in the Emergency Room (ROSIER), and the National Institutes of Health Stroke Scale (NIHSS). The reliability of assessment tools improves with experience and confidence, suggesting the need for a close working relationship between emergency department staff and stroke specialists, and the development of rapid referral processes.

Keyword: screening tools, clinical assessment, emergency setting, acute stroke



Integrative Management of Diabetic Foot Ulcers : A Comprehensive Approach

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ABSTRACT

Diabetic Foot Ulcer (DFU) is a serious complication of diabetes mellitus and significantly increases morbidity, mortality, health service expenditure and affects quality of life. The International Diabetes Federation (IDF) estimates that every 30 seconds, at least one DM patient's limb is amputated due to DFU. The prevalence of DFU in Indonesia is around 15% and the amputation rate reaches 30%. Eighty percent (80%) of inpatient DM cases are caused by DFU.

Factors contributing to DFU can be divided into intrinsic (neuropathy, peripheral vascular disease, and severity of diabetes) and extrinsic (wound infection, callus formation, and excessive pressure on the area). The diagnosis of diabetic foot ulcers involve a combination of clinical assessment, classification, staging, and diagnostic test. Early detection and comprehensive evaluation are crucial to prevent complications and guide appropriate treatment strategies. A prompt and accurate diagnosis, followed by appropriate wound care and management, is essential in improving the outcomes for individuals with diabetic foot ulcers.

A multidisciplinary and comprehensive approach to foot care is the mainstay of therapy, and there is still opportunity to improve DFU outcomes. Integrative management includes the application of various treatment systems with treatment standards for better outcomes. Standard treatment principles for diabetic foot ulcers include glycemia control, wound care, infection management, vascular assessment and revascularization, resolution and pressure relief, patient education, nutritional support, and psychological support. Successful integrative management can be achieved by establishing a multidisciplinary team that may include a podiatrist, endocrinologist, vascular surgeon, wound care specialist, dietitian, and, if necessary, mental health professionals. Collaboration between these experts ensures a holistic and individualized approach to patient care. Applying a comprehensive and integrative approach significantly improves the quality of life for individuals experiencing diabetic foot complications, minimizes the risk of amputation, and reduces the overall health care burden.

Keywords : Diabetic Foot Ulcer, Integrative Management, Comprehensive



Endovascular Intervention for Prevention of Amputation on Diabetic Foot Ulcer

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ABSTRACT

Diabetic Foot Ulcer (DFU) is a disease condition caused by long-term complications of diabetes mellitus. Complaints can be as mild as paresthesia to necrosis and gangrene that require amputation to save lives. The pathophysiology of DFU is arterioclerosis & or aterosclerosis which causes narrowing of arterial blood vessels resulting in less delivery of saturated blood to the distal part of the narrowing. The blood contains of oxygen, nutrients, immune cells, and endogenous stem cells. If the blood narrowing is not treated (revascularization), there will be worsening lower limb situation to be amputated, even death of the patient due to sepsis.

Revascularization can be managed by medically, surgical, or minimally invasive (endovascular). Emerging technologies are being adopted in Indonesia also for Endovascular with various advantages. Some of the things that can be done by endovascular are balloons angioplasty, stenting, plug suctioning and endarterectomy procedure. It is hoped that with an understanding of DFU that has an effect on awareness, accompanied by technological developments in the form of endovascular surgery, amputation can be prevented. This is in line with the WHO program known as the "Free Amputation Campaign".



Diabetic Foot Care Management In Indonesia

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ABSTRACT

According to International Diabetes Federation (IDF) data, the global prevalence of diabetes mellitus (DM) has increased by 2030, although in 2035 it will have a slight decrease by 2040, but after 2045 it will increase drastically. Based on this data, Indonesia is among the 10 countries with the highest DM in the world. Furthermore, the costs spent by the government to support the treatment of DM are still relatively low. This prevalence will affect the complications. People who have diabetes will have diabetic foot ulcers (DFUs). The biggest problem with diabetic foot ulcers is the amputation of the limbs. As a result, it will affect the quality of life. Therefore, proper local wound management is required.

Nowadays, wound care management is very developed and varied. The management of DFUs care should follow the process from the start of the wound to the prevention of recurrence. When treating wounds, prevention of infections is crucial so that the wound does not spread. The use of modern and conventional dressings can be an option. Examples of conventional dressings are honey and sea cucumber. Within a wound with an infection, examining the signs of infection is crucial. Bacterial counting becomes one of the most accurate methods because it does not cause pain and results can be obtained in real time. When examining wounds, maceration should be a matter of attention. Wounds with macerations will cause wounds to heal slowly and, in fact, become wider.

Many studies report that the quality of life of patients with DFUs is low. This quality of life covers bio-psychosocial aspects. Therefore, the treatment of quality of life has become crucial. DFUs can heal if treated properly, but they can be recurrent. Currently, many of the patients treated have recurrent. A strategic way of preventing the recurrence of injuries is to educate and assess the risk of recurring injuries in the early stages.

Keywords: diabetic foot ulcers, recurrent, quality of life



Nutrition Education to Prevent Adolescent Obesity

Prof. dr. Tahira Sadiq, MBBS, MPH, PGD, MHPE

ABSTRACT

Nutrition plays a pivotal role in the growth, development, and overall well-being of adolescents. This abstract highlight the importance of effective nutrition education for adolescents and explores key strategies for its successful implementation. During adolescence, individuals experience rapid physical, cognitive, and emotional changes, making it a critical period to instil healthy dietary habits. However, many adolescents today face challenges related to poor dietary choices, sedentary lifestyles, and an increasing prevalence of nutrition-related health issues.

The primary goal of nutrition education for adolescents is to empower them with the knowledge, skills, and motivation to make informed and healthy dietary decisions. This abstract outline several essential components of effective nutrition education programs like scientific foundation of nutrition education, practical cooking skills, food label literacy, cognitive and behavioural aspects, promotion of critical thinking, interactive and engaging approaches, cultural sensitivity, integrating physical activity to have long term impact.

In conclusion, nutrition education tailored to the unique needs and challenges of adolescence is crucial for fostering healthy dietary behaviours. By providing accurate information, practical skills, and a deeper understanding of the factors influencing food choices, educators can empower adolescents to make informed decisions that positively impact their current and future health. These abstract underscores the significance of comprehensive and engaging nutrition education as an investment in the well-being of both individuals and society.



Pre-service Interprofessional Education: Addressing the Challenges

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ABSTRACT

Teamwork and collaboration among healthcare workers are two of the most critical competencies for the health profession. One of the ways to achieve this competency is Interprofessional Education. The World Health Organization (WHO) defines IPE as students from one or more health professions learning each other's roles and practicing together to increase health outcomes.

One of the best models for designing the IPE curriculum consists of three stages: immersion, exposure, and mastery. Curriculum IPE in undergraduate programs is mainly designed for the immersion process. This process is essential since students should understand their roles first and start understanding other professions' roles. Without understanding other professions, students only focus on their own. This condition might result in negative attitudes toward or negative stereotypes of other professions.

The biggest challenges faced during IPE in undergraduate programs are due to the teaching-learning process of multiple professions. It would be challenging to remove students' perspectives based on each discipline. One of the best ways to solve this issue is by designing a learning outcome that includes all subjects and more emphasis on interprofessional collaboration. Furthermore, IPE learning activities are better using more demonstration or practice and other activities enriching students' experiences regarding the other roles.



Interprofessional Colaboration in Clinical Setting: Best Practices

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ABSTRACT

Interprofessional collaboration (IPC) is defined as practice and education where individuals from two or more professional backgrounds meet, interact, learn together, and practice with the client-or-patient centered of health care. It is seen as potentially a powerful strategy for achieving optimal health outcomes because of health care collaboration. Better coordination of care is thought to result from increased communication and understanding of each professional's role. Interprofessional collaboration carries the knowledge, skills and attitudes as interprofessional team behaviors and competence.

The goal of an interprofessional team is to provide patient-centered care in a collaborative manner. The team establishes a common goal and using their individual expertise, works in concert to achieve that patient-centered goal. Joint decision making is valued and each team member is empowered to assume leadership on patient care issues appropriate to their expertise. Team members synthesize their observations and profession-specific expertise to collaborate and communicate as a team for optimal patient care.

Interprofessional collaboration is considered by many in governments and health care organizations and professions to be critical to the provision of safe, effective, and efficient care. The incorporation of interprofessional collaboration into health care settings affects the everyday practice of doctors, nurses, pharmacists, and all health professionals. Preparing doctor, nurse, pharmacist and all students to practice in a collaborative environment demands an understanding of how interprofessional collaboration is developed and mirrored in practice. Although there is limited evidence to support the effectiveness of collaboration in patient care outcomes, it is thought to improve the quality of health care delivery through the best use of knowledge, skill and attitudes of health care professionals. Interprofessional collaboration can enhance the quality of patients care, reduce medical errors, decrease patients' length of stay, and lowering costs. It is thought to be financially advantageous and socially just because the optimal use of practitioners enables wider access to health care and improved communication among professionals. It can reduce errors and mitigate the human and financial cost of errors, so that collaboration is essential among health care practitioners.

The limitations in the current knowledge base regarding IPC and how to best acquire skills and knowledge, places greater demands on understanding more about how we learn, teach, and practice collaboration. Although there are barriers to IPC at various levels of the organization including lack of perceived value to IPC, attitudinal differences in health professionals, a lack of logistical/resources issues, and commitment, developing a plan for IPC that includes key elements critical for optimal success.

Keywords: interprofessional collaboration, patient-centered care, knowledge, skills, attitudes, quality of patients care



Recent Focus on Interprofessional Education/Collaboration research

Professor Timothy F Chen PhD, DipHPharm, BPharm, FFIP, FPS, FANZCAP, ARPharmS

ABSTRACT

The World Health Organisation and health professional accreditation bodies state the critical importance of interprofessional education in the training of health care professionals. Contemporary health care professional education therefore has a strong focus of interprofessional education. This presentation will discuss both educational and curricular mechanisms for the delivery of interprofessional education. It will then progress to describe how working culture, environmental and institutional mechanisms can support the implementation of collaborative practice. Some contemporary research examples of the implementation of health care interprofessional education will be described. The presentation will also cover some current examples of collaborative medication management review research in primary care and at care transitions as patients are discharged from hospital to home.



Abstract of Oral and Poster Presentation



Infection and Infarction: Important Correlation between Plaque Burden and Gensini Score in ST Elevation Myocardial Infarction Patients

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ABSTRACT

Background

A likely connection between acute infection and complications of atherosclerosis has been studied since the 1980s. Most studies focus on respiratory tract infections, particularly influenza and pneumonia. Recent studies confirm more significant evidence than before.

Method

This study is a cross-sectional study with STEMI-diagnosed patients aged \geq 18 years old, who underwent PCI from January 2021 to March 2023 in Klaten Islamic Hospital, Central Java, Indonesia, as subjects. The dependent variable was the degree of coronary lesion severity measured by the Gensini score. Ordered logistic regression was used as an analysis tool.

Result

This study involved 131 STEMI patients, consisting of 106 males and 25 females. Patient age ranged from 29 to 85 years old (mean 60.5, SD 10.79). Gensini scores range from 12-148 (mean 59.16, SD 31.07). Statistical analysis revealed there were no significant correlations between age, sex, hypertension, diabetes mellitus, lipid profile, smoking and neutrophil to lymphocyte ratio (NLR) with the Gensini score. Ordered logistic regression revealed patients suffering from infection tend to have higher degree of severity (OR: 3.59, CI: 1.1938 – 10.828, p 0.023).

Discussion

The primary culprits in the pathogenesis of coronary artery disease are the host's defense mechanisms and the infection. Pathogens in artery wall cells cause proatherosclerotic effects, including smooth muscle cells proliferation, migration, cytokine expression, and increase of reactive oxygen species. Infections produce circulating inflammatory cytokines that could activate inflammatory cells and up-regulate host response proteins in the existing atherosclerotic plaques, becoming unstable and induce an oxidative burst. Coronary thrombosis risk increases with acute infection-related prothrombotic conditions. The intraplaque inflammation increases platelet activity, tissue factor production and reduces endothelial anticoagulant function, contributing to coronary thrombosis.

Conclusion

Infectious burden could be considered as an important risk factor for atherosclerotic disease.

Keyword: STEMI, Infection, Gensini Score



The Study of Achieving Therapeutic Goals in Geriatric Hypertensive Patients and Comparison of Several Antihypertensive Drugs

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ABSTRACT

The global prevalence of hypertension stands at 31.1%, whereas in Indonesia, it reaches 34.1%, primarily affecting the elderly population, comprising 22.3%. This condition directly contributes to the occurrence of stroke, myocardial infarction, heart failure, atrial fibrillation, diabetes, kidney failure, and retinopathy. Appropriate pharmacological management and achieving the target blood pressure are crucial factors in reducing the incidence of these conditions. Until recently, studies on the achievement of treatment goals and drug comparisons in geriatric patients with hypertension in Indonesia were lacking. This study is an observational cross-sectional study with retrospective data collection from the medical records of outpatients between January 1, 2021, and June 31, 2022. The research was conducted at dr. Soekardjo Hospital in Tasikmalaya City from January to April 2023. The study results revealed that 103 patients met the inclusion criteria, with a predominance of females aged between 60-74 years, mostly with stage 1 hypertension. The rate of achieving the treatment goal (<130/90 mmHg) was 62.14%. The medications used in this study included amlodipine, ramipril, candesartan, valsartan, and furosemide. Comparisons of medications as monotherapy (ACE inhibitors, ARBs, CCBs) did not demonstrate a significant difference (p>0.05) in reducing blood pressure to reach the treatment goal, nor did comparisons of combination drugs (CCB + ARB, ACE-I + loop diuretics, CCB + ACE-I). However, CCB (amlodipine) as monotherapy or CCB+ACE-I (amlodipine + ramipril) as a combination showed a higher achievement rate. The use of CCB (amlodipine) as monotherapy and CCB+ACE-I (amlodipine + ramipril) as a combination is recommended in geriatric patients to improve the achievement of the treatment goal for blood pressure reduction, which currently stands at 62.14%.

Keywords: antihypertensive, geriatric, hypertension, therapeutic goal



Risk Factors for Ischemic Stroke in Cerebral Small Vessel Disease Versus Large Artery Atherosclerosis Substypes at Soedono General Hospital

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ABSTRACT

Stroke remains a major public health challenge in Indonesia. Effective stroke management requires a proper consideration of the patient's risk factors and stroke subtypes. We aimed to evaluate the risk factor profiles associated with two ischemic stroke subtypes: cerebral small vessel disease (CSVD) and large artery atherosclerosis (LAA). Data were collected from the medical records of ischemic stroke patients at dr. Soedono General Hospital in East Java from 2021-2023. Risk factors of stroke, including age, gender, blood pressure, blood glucose levels, total cholesterol levels, LDL levels, triglyceride levels, smoking habits, and ischemic heart disease, were assessed at the time of the patient's admission. The dataset comprised 55 subjects with CSVD, 72 with LAA, and 40 non-stroke patients as controls. Multivariate logistic regression showed that hypertension (OR= 10.545, p= 0.001), diabetes mellitus (OR= 9.030, p= 0.003), smoking (OR= 5.403, p= 0.006), and hypercholesterolemia (OR= 8.724, p= 0.002) were higher in CSVD subjects than controls. Similarly, we found that risk factors of age over 55 years (OR= 9.515, p= 0.005), hypertension (OR= 26.685, p= 0.001), and elevated LDL levels (OR= 12.782, p= 0.014) were higher in LAA subjects compared to controls. Multivariate analysis comparing the incidence of LAA to that of CSVD revealed that subjects with ischemic heart disease (OR= 14.104, p= 0.001) and hyper-LDL (OR= 7.924, p= 0.001) exhibited more susceptibility to LAA, while those with hypertriglyceridemia (OR= 4.673, p= 0.009) are more likely to experience CSVD. The results of this study highlight the differences in risk factors contributing to CSVD and LAA subtypes of ischemic stroke, emphasize the importance of tailoring stroke management strategies based on subtype-specific risk profiles.

Keywords: Cerebral Small Vessel Disease, Large Artery Atherosclerosis, Risk Factor



Differences of Cardiometabolic Disease Risks in Elderly With and Without Hyperuricemia

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ABSTRACT

Background: The elderly population is increasing in the world, including in Indonesia. This has an impact on increasing health problems related to the process of cell or organ degeneration. One of the metabolic disorders that occurs in elderly patients is increased uric acid levels (hyperuricemia). Hyperuricemia triggers a process of oxidative stress, inflammation, and endothelial dysfunction, which is related to the process of insulin resistance and metabolic dysfunction which can cause cardiovascular disease and metabolic disease. **Objectives**: To determine the difference in the risk of cardiometabolic disease in elderly people with hyperuricemia and without hyperuricemia.

Methods: This research was conducted using a descriptive analytical research design, with a cross sectional research design. The research was conducted at posyandu for the elderly in Bantul and Sleman. The inclusion criteria for research subjects were elderly patients (aged > 60 years), agreeing and signing informed consent. Exclusion criteria were suffering from chronic kidney failure and cancer. The independent variable is hyperuricemia condition and the dependent variable is risk factors for cardiometabolic disease (age, body mass index, waist circumference, total cholesterol levels, LDL cholesterol levels, HDL cholesterol levels, tiglyceride levels, blood pressure and blood sugar levels). Statistical analysis uses a t test, with p<0.05 considered significant.

Results: There were a total of 120 elderly people as research subjects, with 68 elderly people with hyperuricemia and 52 elderly people without hyperuricemia. Significant differences were found for cardiometabolic risk factors, LDL cholesterol levels (p = 0.048), triglyceride levels (p = 0.039), blood pressure (p = 0.012), and blood sugar levels (p = 0.045). Meanwhile, for age, total cholesterol, HDL cholesterol levels, body mass index and waist circumference there were no significant differences (p > 0.5).

Conclusion: There were significant differences in LDL cholesterol levels, triglyceride levels, blood pressure and blood sugar levels between the elderly group with hyperuricemia

Keywords : Uric Acid, Cardiometabolic, Risk, Elderly



Survival Analysis of Chronic Kidney Disease Patients Undergoing Hemodialysis at dr. Soedono Madiun District Hospital

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ABSTRACT

Background: Hemodialysis can improve the quality of life for patients with chronic kidney failure but cannot increase the patient's survival expectancy. National data on the incidence of mortality that occurs in patients with chronic kidney failure from the first three months to a decade undergoing hemodialysis therapy is 31.7%. However, survival data is dominated by data from big cities.

Research objective: To determine the survival rate for 4 years in patients with chronic kidney failure undergoing hemodialysis at district hospital.

Methode: The method used is a retrospective cohort. Data source from hemodialysis medical records from 2016-2020. **Results**: Analysis of secondary data was conducted on patients undergoing hemodialysis from January 1st2016 to December 31st 2020, there were 196 patients undergoing hemodialysis. The result is that the average age of patients undergoing hemodialysis is 53.87 years. Dominated by the male sex of 56.7% and 43.3% female. The survival rate for 4 years in patients with CKD undergoing hemodialysis was 29.7% (95% CI 18.7-32.1). Older people have lower survival rates than young people (OR 2.6; 95% CI 1.09-6.01; p 0.03). Male sex had a higher survival rate than female (OR 0.4; 95% CI 0.19-0.78; p 0.007). The results of the bivariate regression test showed that age and sex affected survival by 8.5% (p 0.001).

Conclusion: The survival rate of patients undergoing hemodialysis in district hospital is still low, especially in the elderly and female sex. So it is necessary to make efforts to cover early detection, monitor the achievement of hemodialysis adequacy, and control of comorbidities in order to increase the life expectancy of patients with kidney failure considering that the average age is still in the productive age.

Keywords: chronic kidney failure, hemodialysis, life expectancy



ID: 02.1

Multivariate Analysis and Machine Learning: Mortality Predictions In COVID-19 Patients From Comorbidity, Demographic and Laboratory Findings

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ABSTRACT

Objective:COVID-19 Patients were constantly at a risk of death. It has been demonstrated that the utilization of machine learning (ML) algorithms could be a possible strategy for prediction mortality. **Aim**: This study aimed to analysis six Machine Learning (ML) algorithms in an multivariate analysis to identify key clinical, demographic and laboratory finding to predict mortality in COVID-19 pandemic

Methods: This retrospective study consisted of persons-under-investigation for COVID-19. Dataset taken from data science community (kaggle.com), predictive models of mortality were constructed and compared using six supervised machine learning algorithms: KNN, naivebayes, SVM, decision tree, random forest and logistics regression using 10-fold cross-validation and multivariate analysis. The performance of algorithms was assessed using precision, recall, F-measure accuracy and area under the receiver operating characteristic curve (ROC). The Waikato Environment for Knowledge Analysis (WEKA) version 3.8.6 for analysis. Multivariate analysis using Logistic regression were used to predict mortality.

Results: A total of 4711 patients were included in the analysis. The top 4 mortality predictors were Mean Artery Pressure (MAP) (p<0.001; OR 17.071(12.233-23.820), stroke (p<0.001;OR 3.499(1.883-6.503), Age (p<0.001;OR 3.23(2.716-3.830), IL6 (p<0.001; OR 2.03(1.512-2.725. Random Forest was the best ML algorithms predicted mortality with 0.953 ROC.

Conclusion: This study identifies important independent clinical variables that predict COVID-19 infection-related mortality. The prediction method is helpful, easily improved, and easily retrained with new data. This method can be applied right away and may help front-line doctors make clinical decisions in situations where there are limited resources and time.

Keywords— sars cov-2 mortality, data mining research, machine learning algorithm, prediction models



ID: 02.2

Age, Systolic Blood Pressure and Abdominal Obesity as The Risk Factor of

High Random Blood Glucose Level in Pesantren II

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ABSTRACT

The prevalence of high random blood glucose in Indonesia based on data from the International Diabetes Federation (IDF) in 2021 reached 17,6%. There were 1.386 cases of diabetes in the area of Pesantren II public health center. This study aims to determine of age, systolic blood pressure and abdominal obesity as the risk factor of high random blood glucose level in Pesantren II public health center area, Kediri City. This study is a quantitative study with a cross sectional design. Data collection was obtained from the screening Posbindu PTM during January-June in 2023. The respondent in this study is 285 of Posbindu PTM patients aged 15-59 years old who lived in Pesantren II public health center area. The result showed that 16,8% of respondents had high random blood glucose level and most of them were aged >40 years (69%). There was a significant of age (OR=2,81; 95% CI 1,45-5,45; p=0,002), systolic blood pressure (OR=2,80; 95% CI 1,17-6,69; p=0,016) and abdominal obesity (OR=2,03; 95% CI 1,02-4,04); p=0,040) with the high random blood glucose level. This study suggested that encouraging random blood glucose level screening is necessary in order to prevent diabetes earlier.

Keywords: random blood glucose, age, systolic blood pressure, abdominal obesity

Abstrak

Prevalensi kadar gula darah acak yang berada diatas normal di Indonesia berdasarkan data *International Diabetes Federation* (IDF) tahun 2021 tercatat sebesar 17,6%. Kasus diabetes di wilayah kerja Puskesmas Pesantren II Kota Kediri diketahui sebanyak 1.386 kasus. Penelitian ini bertujuan untuk mengetahui usia, tekanan darah sistolik (TDS) dan obesitas sentral sebagai faktor risiko yang menyebabkan tingginya kadar gula darah sewaktu (GDS) di wilayah kerja Puskesmas Pesantren II, Kota Kediri. Penelitian ini merupakan penelitian kuantitatif dengan desain *cross sectional*. Pengumpulan data dilakukan melalui hasil skrining Posbindu PTM selama bulan Januari-Juni tahun 2023. Responden pada penelitian ini berjumlah sebanyak 285 orang pasien Posbindu PTM dengan usia 15-59 tahun yang bertempat tinggal di wilayah kerja Puskesmas Pesantren II. Hasil studi ini menunjukkan bahwa responden yang memiliki kadar gula darah yang tinggi tercatat sebanyak 16,8% dan sebagian besarnya berada pada usia >40 tahun (69%). Pada studi ini juga menyatakan bahwa adanya hubungan bermakna antara usia (OR=2,81; 95% CI 1,45-5,45; *p*=0,002), tekanan darah sistolik (OR=2,80; 95% CI 1,17-6,69; p=0,016) dan obesitas sentral (OR=2,03; 95% CI 1,02-4,04); p=0,040) dengan tingginya kadar gula darah sewaktu (GDS). Hasil penelitian ini menunjukkan bahwa pentingnya skrining kadar gula darah acak guna mencegah penyakit diabetes lebih dini pada usia produktif.

Kata kunci: gula darah sewaktu, usia, tekanan darah, obesitas sentral


ID: 02.3

Effect of Soda Drinks on Histological Image of The Aorta Thoracica of Rats Induced by High-Fat Diet

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ABSTRACT

High-fat diets and soft drinks are risk factors for disorders of the thoracic aorta. This characterized by changes in blood vessel morphology in the form of the appearance of foam cells in the tunica intima and thickening of the tunica intima and media. Objectives of this research is to know the difference in the histological appearance of the thoracic aorta in the group of rats that were given a high-fat diet and soft drinks and the group that was not given a high-fat diet and soft drinks. There were 20 thoracic aortic preparations which were observed using a microscope in 10 fields of view and magnification of 400x. The tunica intima and media thickness was measured by drawing a straight line with Raster Image Software. Foam cell counting is done with a cell counter app. Statistical tests showed significant changes in the number of foam cells in the intima (p=0.00). The number of foam cells in the HFD+S group was the highest and in the post hoc test a significant difference was found between the N (p=0.00) and HFD (p=0.01) groups. In the HFD and HFD+S groups there was an increase in the thickness of the tunica intima (p=0.86) and thinning of the tunica media (p=0.80) but it was not significant compared to the N group. In conclusion there was a significant increase in the number of foam cells in the intima due to the administration of soda along with a high-fat diet. Changes in the thickness of the tunica intima and media were not significant.

Keywords: thoracic aortic histomorphology, atherosclerosis, diet soda, high fat diet.



ID: 02.4

Contribution Height of Residence (Altitude) as a Risk Factor for Hypertension, Multifactorial Analysis of Hypertension in Society Rural Areas in Indonesia

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ABSTRACT

Background: Cardiovascular disease related to atherosclerosis is a public health problem major globally, including in Indonesia. Lives on the plains tall both acutely, such as for travelers, and chronically, namely for those who live permanently, it has an impact on good health positive or negative. Not much yet explored how living at high altitudes affects cardiovascular health, especially on blood pressure. Therefore, this study aims to evaluate the contribution of living at high altitude to blood pressure, taking into account other factors.

Objective : to analyze the contribution of altitude to blood pressure by taking into account the influence of other factors .

Method : research design cut latitude Compare age, gender , level education , employment, body mass index, circumference stomach , level blood sugar and acid veins on blood pressure. Respondents came from two regions rural , namely areas plain low vs plain high .

Results : two variables that consistently show significance are old age and living in the plains high with the adjusted odds ratio (aOR) respectively aOR =4.392; p=0.000 and aOR =3.041; p=0.007. Mean systolic blood pressure (standard deviation/SD) of those living in the plains low vs plain high respectively : 130.16 (7.47) vs 145.81 (28.15); p=0.000. In diastolic pressure sequentially plain low vs high : 79.59 (11.27) vs 90.07 (13.92); p=0.000.

Conclusion : old age and living in the plains high is a risk factor for its occurrence hypertension.



ID: 02.5

Coffee Consumption Improves Blood Lipid Profile and Inhibits Coronary Atherosclerosis in Periodontitis Rat Model

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ABSTRACT

Purpose. This study aimed to analyze whether coffee consumption could alter blood lipid profile and inhibit coronary atherosclerosis in periodontitis rat model

Methods. This was an in vivo experimental study using the post-test-only control group design. The object were rats (n=15), which were divided into three groups, (1) Periodontitis group (no coffee), (2) Coffee group (Periodontitis + Coffee), and Control group (no Periodontitis, no Coffee). The Periodontitis rat model was created by ligature placement and bacterial inoculation (*Porphyromonas gingivalis*) around the left molar mandibular tooth. The rats in the coffee group were given daily a single dose of coffee brew (equal to one cup) for four weeks. At the completion of the study, rats were fasted for ten hours and then sacrificed. Intracardial blood was collected (3 mL) and analyzed for the lipid profile i.e., Total cholesterol (Tc), Triglyceride (TG), Low-density Lipoprotein-cholesterol (LDL-c), and High-density Lipoprotein-cholesterol (HDL-c), using the Colorimetric Enzymatic method. The rat's hearts containing coronary arteries were then removed and prepared for histochemistry assay to examine the occurrence of atherosclerotic lesions such as atheroma, stenosis, and vascular occlusion.

Results. There was no significant difference (p>0.05) in the concentration of Tc and LDL-c in all of the three groups. The concentration of TG was significantly highest in the periodontitis group, and the coffee group had significantly lower TG (p<0.05) compared to the periodontitis group. The concentration of HDL was significantly higher (p<0.05) in the coffee group. Coronary atherosclerotic lesions were frequently identified in the periodontitis group, but rarely in the coffee group.

Conclusion. One cup of coffee consumption reduced blood TG and increased HDL in the periodontitis rat model. This study highlights the potential effect of coffee on the improvement of lipid profile, and the inhibition of unfavorable potential of periodontitis on coronary artery disease.

Keyword. Coffee brew; Colorimetric; in vivo; Porphyromonas gingivalis; Rat.



Empagliflozin as A Promising Antihypertensive Agent in Type 2 Diabetes Mellitus Patients With Hypertension: A Scoping Review

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ABSTRACT

Hypertension and type 2 diabetes mellitus (T2DM) pose significant global health challenges, with their prevalence projected to increase, including in Indonesia. Empagliflozin, an underutilized sodium-glucose cotransporter 2 inhibitor (SGLT-2i) for diabetes, holds potential as an antihypertensive agent, making it promising for primary care. However, existing studies report conflicting findings on its antihypertensive effects. To evaluate the protective effect of empagliflozin on hypertension in T2DM patients, we conducted a scoping review of recent research following the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines. We searched ten databases for relevant articles published from January 2013 to July 2023 in English or Bahasa Indonesia, assessing empagliflozin's antihypertensive effects in adults with T2DM and hypertension. The databases include PubMed, SpringerLink, ScienceDirect, Taylor and Francis, Wiley, ProQuest, EBSCO, Cochrane, Google Scholar, and Portal Garuda. From 17,251 literature, 39 relevant studies met our inclusion criteria, i.e., focusing on adults (>18 years) with T2DM and hypertension, analyzing the antihypertensive effects of empagliflozin, and encompassing clinical trials or observational studies. Among these, 34 studies reported a significant reduction in blood pressure in T2DM patients with hypertension following empagliflozin treatment. The remaining five studies showed mixed results, with some indicating no significant impact on blood pressure. No severe adverse effects were reported across all studies. Empagliflozin shows promise for managing blood pressure in individuals with T2DM and hypertension. Thus, it can be a promising drug for managing both conditions concurrently, offering potential benefits in optimizing patient in healthcare, including primary care. Healthcare providers should consider empagliflozin as a therapeutic option for T2DM patients with hypertension while closely monitoring blood pressure levels for optimal treatment outcomes.

Keywords: antihypertensive, blood pressure, diabetes, empagliflozin.



Trends in Research of Association of Pregnancy-Induced Hypertension and Low Birth Weight: A Bibliometric Analysis

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ABSTRACT

Low birth weight is still a global problem related to the high mortality and morbidity of infants. There has been growing evidence of the association between pregnancy-induced hypertension with low birth weight. This study aimed to bibliometric methods to present a summary of articles published on the association between pregnancy-induced hypertension and low birth weight. We investigated the articles on pregnancy-induced hypertension and low birth weight published in English from 1968-2023 and indexed in Pubmed. The database was queried using a set text of search strategies on September 15th, 2023, and limited to clinical trials and observational studies in human subjects. VOSviewer software was used to visualize the networks. A total of 844 articles were included. There has been a continuous increase in the number of subjects on this topic, with half of the scientific reports published in the last decade. The greatest institution contributor was the Fetal Medicine Research Institute, King's College Hospital London (5 documents). The co-occurrence analysis confirmed 5 clusters. The 5 most useful keyword topics were "fetal growth restriction", "pregnancy", "preeclampsia", "hypertension", and "blood pressure". This bibliometric analysis provides valuable information to describe the current status and gaps of emerging research on this topic and develop future research directions concerning the association between pregnancy-induced hypertension and low birth weight.

Keywords: pregnancy-induced hypertension, low birth weight, bibliometric analysis



Should We Start Rhythm or Rate Control in a case of AF with ADHF? A Case Report

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ABSTRACT

Background: Atrial fibrillation (AF) is a common arrhythmia linked to increased mortality and disability. Rhythm and rate control therapy are essential treatments for AF, improving health-related quality of life in newly diagnosed patients. However, there is no significant difference in long-term clinical results between these treatments. Patients receiving rhythm-control therapy have a higher risk of adverse events compared to those receiving rate-control therapy. Rhythm-control treatment is now recommended exclusively for symptomatic AF patients, but long-term prognostic effects remain equivocal. Real-world evidence from observational studies may help compare the effectiveness of early rhythm-control strategies in AF management.

CASE PRESENTATION: A 84-year-old man who had been complaining of acute shortness of breath for the previous three days appeared at the emergency room. Anamnesis and medical evaluation led to the initial diagnoses of ADHF forester II, hypertensive crises, and atrial fibrillation with normo-ventricular response (AFnVR).

DISCUSSION: According to a Pakistani study, patients with atrial fibrillation (AF) were largely male and older than 60 years old, with frequent comorbidities such as diabetes, hypertension, stroke, myocardial infarction, and chronic obstructive pulmonary disease. A retrospective population-based cohort study in Korea that included 22635 patients with AF newly treated with rhythm control or rate control from 2011 to 2015 discovered that starting rhythm control within one year of AF diagnosis reduced the risk of stroke and hospitalization for heart failure. A meta-analysis found that early rhythm control significantly reduced the primary composite outcome in patients with atrial fibrillation. So, what should we give to treat AF in this patient?

CONCLUSION: In patients with newly diagnosed AF, early beginning of rhythm control was associated with a decreased risk of stroke and heart failure-related admission than rate control. The effects were reduced as the rhythm control treatment was started later.

Keywords: Atrial fibrillation; Heart Failure; Acute Decompensated Heart Failure; Rate Control; Rhythm Control



Could Renin-Angiotensin System Inhibitors Reduce Fibrosis in Rheumatic Heart Disease by Inhibiting Soluble Suppression of Tumorigenicity 2 (sST2)?: Systematic Review

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ABSTRACT

One of the clinical manifestations of rheumatic heart disease (RHD) is fibrosis and thickening of the valves, causing significant hemodynamic disturbances. The process of fibrogenesis is related to immunological processes, there is a sensitive biomarker of cardiac fibrosis known as soluble suppression of tumorigenicity 2 (sST2). Soluble ST2 is affected by angiotensin II and cardiomyocyte stretch. It is hypothesized that inhibiting the angiotensin II pathway can reduce cardiac fibrosis through sST2 inhibition with renin-angiotensin system inhibitors, but clinical trials in the RHD population are limited. Thus, this study will conduct a systematic review in other heart disease populations that have a fibrogenesis process similar to RHD. Methods: We conducted a data search on online databases: PubMed, ScienceDirect, and Google Scholar. Data screening and selection process using PRISMA flowchart. We assessed the quality of the articles using the GRADE method. Results: 770 articles were obtained with a final result of 8 relevant articles. The use of sacubitril/valsartan compared to valsartan or enalapril was shown to significantly reduce sST2 levels at the end of the study (p<0.05) while being followed by improvements in risk of morbidity, mortality, hospitalization, and echocardiographic outcomes. Objective parameters that showed sST2 reduction indirectly reduced cardiac fibrosis were decreased left ventricular end-diastolic volume index (p = 0.02), left ventricular end-systolic volume index (p = 0.02) 0.045), left atrial volume index (p < .001), and mitral E/e' ratio (p = 0.001). Conclusions: Although this study did not directly utilize the RHD patient population, in conditions with similar pathogenesis, therapy using renin-angiotensin system inhibitors may reduce the incidence of cardiac fibrosis through the sST2 inhibition pathway.

Keywords: cardiac fibrosis, renin-angiotensin system inhibitors, rheumatic heart disease, sST2



Hypertension with Erythropoetin Resistance in CKD Patients

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ABSTRACT

Background. Hypertension has always been a risk factor for chronic kidney disease (CKD) which requires dialysis. Uncontrolled hypertension can affect the success of Erythropoietin (EPO) therapy. Anaemia, which always occurs in CKD, combined with hypertension, will certainly weaken the patient's condition. Resistance to EPO therapy in the treatment of renal anaemia and hypertension may increase further complications and lead to death.

Objective. To know relationship between hypertension and EPO resistance

Method. The research design was cross sectional with the independent variable of hypertension and the dependent variable of EPO resistance. This study was conducted among CKD patients undergoing dialysis who met the inclusion and exclusion criteria. Inclusion criteria were CKD dialysis patients with anaemia and hypertension. This study used WHO and JNC VII criteria for classifying anaemia and hypertension, respectively. Meanwhile, EPO resistance is determined using the EPO resistance index (ERI). After that, we examine the relationship between hypertension and EPO resistance. It was then further observed to identify factors associated with ERI and linked to all-cause mortality and cardiovascular mortality.

Results. The results of the analysis using the Spearman rank correlation test between blood pressure levels consisting of pre-hypertension, stage 1 hypertension, and stage 2 hypertension on the ERI classification with low, middle, and high groups obtained significant results with a p-value of 0.01 (below 0.05). Persistent hypertension is positive with ERI. The cumulative incidences of cardiovascular death and all-cause death were significantly higher in patients with hypertension.

Conclusion. Increasing the level of blood pressure reduces the increase in EPO resistance. Hypertension is an independent weakening factor of EPO response among dialysis patients. Patients with higher ERI values had higher all-cause mortality and cardiovascular mortality.



The Association Between Platelet Lymphocyte Ratio and Acute Coronary Syndrome Among Elderly Patients in PDHI Islamic Hospital Yogyakarta

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ABSTRACT

Background: Acute coronary syndrome is the leading cause of death globally. This disease threatens various age groups, especially the elderly. The increase in platelet aggregation and inflammation play an essential role in acute coronary syndrome. Complete blood count such as platelets, neutrophils and lymphocytes is a simple examination to determine the prognosis of acute coronary syndrome (ACS). Platelet to lymphocyte ratio (PLR) is a potential marker of inflammation in cardiovascular disease and a promising biomarker in predicting worse prognosis in ACS patients.

Objective: The aim of this study was to examine the association between Platelet Lympocyt Ratio (PLR) and acute coronary syndrome in the elderly at PDHI Islamic Hospital Yogyakarta.

Method: This cross sectional study using secondary data which is analyzed quantitatively. Data from 50 patients diagnosed with ACS and 50 other patients as a control goup were collected. Data analysis used SPSS 22.0 with the Independent T Test.

Result: The mean PLR in the ACS group was 208.15, while in the non-ACS group the PLR value was 130.51. The results of the Independent T Test showed a p-value 0.00 (p<0.05). There was a significant difference in the PLR value in the ACS group compared to the control group.

Conclusions: There is a significant association between Platelet Lympocyte Ratio (PLR) and acute coronary syndrome in the elderly. Our findings suggest that the platelet to lymphocyte ratio (PLR) can be used as a predictor of cardiovascular disease, especially acute coronary syndrome.

Keywords: Platelets, Lymphocytes, PLR, Acute Coronary Syndrome



Correlation of Hypertension With Vertigo at Ibnu Sutowo Hospital, South Sumatera

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ABSTRACT

Background: One complaint that is often found in clinical practice is vertigo. Vertigo is a symptom resulting from disorders of the balance system, both in the peripheral and central nervous system. BPPV, vestibular neuritis, and Meniere's Disease are the most common causes of peripheral vestibular vertigo. Various risk factors may increase the likelihood of vertigo attacks such as age, gender, and comorbidities. Vertigo often comes together with hypertension. **Objectives:** This study aims to determine the correlation of hypertension with vertigo at RSUD Ibnu Sutowo South Sumatera.

Method: The data used in this study were secondary data in the form of medical records. Data collection was carried out at RSUD Ibnu Sutowo and obtained 96 samples through inclusion and exclusion criteria. The data obtained were analyzed by chi-square test on SPSS 25 software.

Results: on process

Conclusion: on process

Keywords: Vertigo, Hypertension, Ibnu Sutowo Hospital.



A Case Report: A Successfull Hands-Only Cardiopulmonary Rescucitation in An Out Of Hospital Cardiac Arrest Case

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ABSTRACT

Background. Sudden cardiac arrest can occur outside the hospital (OHCA). Delayed action can cause the death of the victim. Hands-only cardiopulmonary resuscitation (CPR) bystander is a life-saving action. This technique has proven to be effective in OHCA

Case description. A 55 year-old male patient was collapse and brought to our Emergency Room (ER). He was receiving hands-only CPR by bystander during the way to the hospital. The bystander was known to be working as a health care. At the ER, the patient still had no carotid pulse, and the monitor showed ventricular fibrillation. We gave defibrillation with a dose of 200 joules. Soon after shock was delivered, he returned of spontaneous circulation (ROSC). The electrocardiogram showed ST depression in leads V1-V5 and troponin I level showed 32.8ng/dl. He was diagnosed with Non-ST Elevation Myocardial Infarction (NSTEMI). We administered antiplatelet, nitroglycerin, then immediately referred him to the hospital with PCI facility after stabilization.

Discussion. Acute coronary syndrome is a common cause of OHCA. This case showed a patient who experienced a sudden collapse outside the hospital due to NSTEMI. With an immediate response and a good compression technique of hands-only CPR from a bystander who was also a healthcare, patients can return to ROSC after receiving further treatment in the ER. Previous study stated that delaying basic life support by 1 minute will reduce the success by 10%. A worse prognose might happen when the bystander was an untrained person.

Conclusion. The time response and technique of hands-only CPR from bystander could determine the outcome in the case of a witnessed cardiac arrest. Public knowledge of basic life support needs to be encouraged to improve the outcome in OHCA.

Keywords : hands-only cpr, ohca, witnessed cardiac arrest



Rodents Model of Metabolic Syndrome: A Review

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ABSTRACT

Metabolic syndrome (MS) is a constellation of metabolic traits (obesity, diabetes, atherogenic dyslipidemia, and hypertension) that has become a global problem. The prevalence of MS ranges from 20-25% worldwide, and the number is predicted to rise due to the increasing prevalence of obesity, physical inactivity, and sedentary lifestyle. Individuals with MS have an increased risk of cardiovascular disease (CVD), stroke, non-alcoholic fatty liver disease, organ dysfunction (kidney, pancreas), dementia, and several cancers (breast, liver, pancreas, cervical, and bladder). Due to its multifactorial origin, the development of experimental animal models mimicking the MS condition in humans is essential to understand the pathogenesis and evaluate its treatment modalities. Several species can be used to study MS, however, rodents are the most commonly used for the study. This review provides a comprehensive review of various MS rodent models with the characteristics of the clinical manifestations and the plausible mechanisms. We conducted a review of the literature published in 2018-2023 obtained from Pubmed and Science Direct databases. There were a variety of intervention methods to induce MS such as genetic models, chemical induction, diet induction with various compositions, and also combination of these methods. Further investigations on the animal model for MS are still necessary to obtain a better understanding for researchers, so they can select the most suitable model for their studies.

Keywords: metabolic syndrome, rodent model, animal model



Comparison of High Fat Diet Effect on Liver Superoxide Dismutase Activity in Hypercholesterolemia Induced Rat Model

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ABSTRACT

Objective: Studies have shown the effect of high fat diet (HFD) as a nutritional intervention, but only few studies have determined the potential effect of eggs as hypercholesterolemia induction. This study aimed to determine the comparison of HFD effect in experimental animals. Saturated fatty acids in eggs can cause oxidative stress by increasing Reactive Oxygen Species (ROS) levels. Under stress oxidative conditions, the immunohistochemical of SOD levels decrease which indicate the liver damage.

Method: The design of this study was conducted for 28 days. Thirty male *Rattus norvegicus* were assigned into six groups, liquid margarine(P1), liquid butter(P2), duck egg yolk(P3), quail egg yolk(P4), chicken egg yolk(P5), and distilled water(P6). The experimental animal received standard ad-libithum feed and induction according to the group at a dose 1ml/100gBW. Samples were tested using ELISA method, then the data were analyzed using *Kruskal-Wallis* Test.

Result: The mean level of SOD(%) in group P1=3.62, P2=3.36, P3=2.69, P4=3.37, P5=3.09, and P6=3.54. The lowest mean level of SOD was owned by the duck egg yolk group. Based on statistical analysis, induction using duck egg yolk was able to significantly decrease the levels of SOD in the liver of rats (p<0.05).

Conclusion: The results of this study indicate that among other egg yolks, duck egg yolk induction was successful in reducing SOD levels significantly. It can be concluded that duck egg yolk has the potential to induce hypercholesterolemia in experimental animals.

Keyword: High-fat diet, Egg Yolk, superoxide dismutase, hypercholesterolemia



The Significant Roles of The Renin-Angiotensin-Aldosterone System Metabolism on the Development of Hypertension

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ABSTRACT

Background: Renin-angiotensin-aldosterone system (RAAS) pathway has an essential role in human physiology, namely to increase blood pressure when hypotension occurs. Imbalance of components in RAAS due to hyperglycemia and obesity can lead to hypertension, one of the chronic diseases with the highest prevalence. RAAS components include angiotensinogen (Agt), renin, angiotensinogen-converting-enzyme 2 (ACE 2), angiotensin-(1-7), and Mas receptor (MasR). These components will be induced due to increased glucose, resulting in a severe oxidative reaction producing angiotensin II (Ang II) that leads to hypertension.

Methods: This concise literature review, we searched databases such as ScienceDirect and PubMed, using keywords like 'RAAS,' 'Hypertension,' and 'Hyperglycemia'. We focused on the role of the renin-angiotensin-aldosterone system (RAAS) in treating hypertension, its connection to obesity-related hypertension in Indonesia, and the potential of RAAS blockade for addressing metabolic syndrome. We also explored how hyperglycemia, insulin resistance, and cholesterol metabolites activate RAAS components in cells linked to metabolic syndrome.

Result: Hypertension is closely related to RAAS activation. Physiologically, RAAS controls blood pressure homeostasis. It is known that the disruption in Ang II cascade activation will lead to hypertension. A disturbed RAAS indicates metabolic abnormalities, such as hyperglycemia and dyslipidemia. It has been found that errors in the RAAS can affect adipose tissue, causing insulin resistance and diabetic dyslipidemia. RAAS is also responsible for the complications accompanying hypertension, especially in diabetic hypertension, as evidenced by the occurrence of cardiomyopathy and atherosclerosis. These findings indicate that the mortality rate is high in the event of hypertension accompanied by other metabolic syndromes. Thus, the RAAS suppression mechanism reduces dysregulation in hypertension, fat, and glucose metabolism.

Conclusions: Activation of the renin-angiotensin-aldosterone system is strongly associated with hypertension. The aforementioned data suggest a significant increase in death rates when hypertension is present alongside other metabolic disorders.

Keywords: Hyperglycemia, Hypertension, RAAS



Global Brain Ischemia In Animal Model : A Bibliometric Approach

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ABSTRACT

To get a comprehensive view of the Global Brain Ischemia in Animal Model and understand the emphasis of current research, this study evaluates the most relevant themes related to the Global Brain Ischemia in Animal Model through bibliometric analysis using the keywords "Global Brain Ischemia" and "Animal" and "Model" as input. Scopus databases are used because they are considered ideal for bibliometric analysis. VOSviewer software is adopted as a bibliometric analysis tool to visualize author networks, countries, journals, and keywords. The analysis conducted on Friday, February 3, 2023 found a total of 385 documents in an unrestricted time period. The results showed that publications related to the Global Brain Ischemia Model increased significantly from 2005 to 2011. The United States is the country with the most publications in the field of Animal Model of Global Brain Ischemia, with Wayne State University School involving the largest publication in the form of original articles followed by Review. Keyword analysis shows that the study of Global Brain Ischemia in Animal Model focuses mainly on themes related to Neuroscience, Medicine, Biochemistry, Pharmacology, Nursing and Psychology. Recent publications in the last 8 years relate to research on astrocyte, matrix metalloproteinase, Ischemic postconditioning, caspase 3, memory, temporal, cortex, dementia, mice, and ischemia/reperfusion.

Keyword : Global Brain Ischemia, Animal Model, Bibliometric



Stroke And Herbal Medicine : A Bibliometric Analysis

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ABSTRACT

Bibliometric analysis is carried out to determine the direction and characteristics of research on stroke and herbal medicine. This study used the Scopus database. Data visualization using VosViewer. The data search was conducted on July 15 2023. The search process used the keywords "Stroke" and "Herbal Medicine". The search is not time-limited, with restrictions on English and manuscript articles. The search results obtained 313 articles. Publications on stroke and Herbal Medicine have increased since 2000 to 2021. China is listed as the country with the most publications involving Kyung Hee University. The journal that consistently publishes publications related to stroke and Herbal Medicine for the period 2003 to 2023 is the American Journal of Chinese Medicine. The top five themes are Medicine, Pharmacology, Biochemistry. The five most prolific writers are Bae, H.S., Cho, K.H., Kim, Y.S., Moon, S.K., and Xu, H. Keyword's Publications related to Herbal Medicine for Stroke in the last 5 years are alzheimer's disease, molecular docking, panax notoginseng saponins, korean medicine, network pharmacology, protocol, ischemic stroke, chinese medicine, acupunture, inflammation, stable coronary artery disease, coronary heart disease, dan neurogenesis.

Keyword : Stroke, Herbal Medicine, Bibliometric



Identification of lanatoside C Mechanism as An Senolytic Compound for Atherosclerosis Therapy: A Review

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ABSTRACT

Background: Age related diseases, such as atherosclerosis is closely related to cellular senescence. Lanatoside C (lana C), an FDA-approved cardiac glycoside can act as a senolytic compound. The target of senolytics are to promote tissue regeneration and remove senescent cells. However, the mechanism of this compound in cardiac diseases is need to be evaluated.

Objective: This study aimed to investigate the senolytic mechanisms of lana C.

Methods: A review of the PubMed, ScienceDirect, Springer, and ResearchGate was conducted in September 2023. The keywords were atherosclerosis, lanatoside C, cardiac, and senotherapeutics. The results will be processed to data extraction and synthesis.

Results: Studies have reported that high-fat diet- induced senescent is significantly decreased by lana C. By inducing the expression of PPAR β/δ , lana C promotes the uptake of oxidised low-density lipoprotein (oxLDL) and foam-cell formation. In addition, lana C can inhibit the transmembrane protein Na +/K+ -ATPase, this mechanism is used for the treatment of cardiovascular diseases.

Conclusion: This findings show that lana C has the potential to be developed as a novel therapy of atherosclerosis.

Keywords: atherosclerosis, lanatoside C, senotherapeutics, cardiovascular



A Bibliometric Analysis of Micro RNA in Hypertension using VOSviewer

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ABSTRACT

Background: Research related to miRNAs and hypertension has produced exciting findings, but much remains to be learned to understand the role of miRNAs in the pathophysiology of hypertension in more depth. Therefore, it is necessary to study the distribution of published topics regarding microRNA and hypertension.

Objective: This study aims to determine the number and trends of scientific publications related to microRNA and hypertension, along with frequently appearing discussion topics.

Method: This study uses a bibliometric method with data taken from PubMed on September 29, 2023, from 2014 to 2023. The data was then analyzed using VOSviewer.

Results: The results obtained were 2004 published articles with the keywords miRNA and hypertension in the last ten years. The topics obtained are divided into eight topic area clusters. **Discussion:** There continues to be an increase in publications from year to year on this topic. In 2020, there was the highest number of publications, namely 303, whereas in 2019, there were only 237. Based on VOSviewer analysis, the eight topic area clusters where the most were found were microRNA, biomarkers and hypertension.

Conclusion: There is a link between micro RNA publications and hypertension, so it can used as a reference for further research.

Keywords : Micro RNA, Hypertension, Bibliometric, VOSviewer



An Overview of Acute Coronary Syndrome at Bubulan Community Health Center

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ABSTRACT

Acute Coronary Syndrome (ACS) is a cardiac emergency that requires immediate diagnosis and treatment and is the world's leading cause of mortality. Community health centers are primary healthcare facilities found in all Indonesian sub-districts. Proper diagnosis and prompt first therapy at community health centers can reduce ACS patient death. The authors want to know the description of ACS in the Emergency Room (ER) of the Bubulan Community Health Center. This research method was a retrospective, cross-sectional study based on medical record data of Bubulan Community Health Center patients from October 2022 to August 2023 using total sampling and interviews with the person in charge of individual health unit (UKP) and the emergency room staff of Bubulan Community Health Center and was presented in descriptive and analytic form. The findings revealed that there were 8 people who suffered from ACS between the ages of 41-50 years (one person (12.5%), 51-60 years (six people (75%)), and 61-70 years (one person (12.5%). The most common gender was female, with 6 people (75%), hypertension was 4 people (50%), tachycardia was 5 people (62.5%), tachypnea was 6 people (75%), and desaturation was 2 people (25%). Based on the diagnosis, four with STEMI (50%), two with NSTEMI (25%), and two with unstable angina pectoris (25%). While based on symptoms, 6 patients (75%), experienced complaints of left chest pain radiating to the back to the fingertips of the left hand, while 2 patients (25%) did not, and based on the interview, the initial therapy of ACS is still below the standard of care due to limited available drugs. Thus, this study provides an overview of the frequency of the incidence of ACS and initial therapy that is still below standard at the community health center.

Keywords: Acute Coronary Syndrome, ACS, Community Health Center



How Far The Structural Anthropometry Values For Diabetisian Have An Effect On HbA1c Levels

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ABSTRACT

HbA1c is the result of a bond between hemoglobin and glucose in the blood because a decrease in insulin sensitivity can affect an increase in HbA1c levels. In DM patients, HbA1c levels are influenced by several modifiable factors, namely body mass index (BMI), abdominal circumference, physical activity and dietary fiber intake. This study aims to determine the relationship between body mass index and abdominal circumference on HbA1c levels in patients with type 2 diabetes mellitus. Observational analytic research design with a cross-sectional approach. The study was conducted at the Gatak Health Center, Sukoharjo Regency, Central Java from July to October 2022. The study population was all prolanis patients who had type 2 DM and were routinely controlled at the Gatak Health Center from July to September. The research sample of DM sufferers who met the criteria required by the researcher totaled 65 samples selected using the consecutive sampling approach. Data analysis techniques using the Chie-Square test. Based on the results of the study, it was known that (1) there was a significant relationship between body mass index and HbA1c levels, it is proven that a p-value of <0.001 is obtained. There is a significant relationship between abdominal circumference and HbA1c levels, it is proven that a p-value of <0.001 is obtained. There is a significant relationship between body mass index and abdominal circumference on HbA1c levels, as evidenced by the body mass index obtained Exp. (B) values of 6.865 with CI values between 1.396 – 33.751, while for abdominal circumference obtained Exp. Values (B) of 15.831 with a CI value between 3.653 – 66.602.

Keywords: Body Mass Index, Abdominal Circumference, HbA1C.



Anti-Atherosclerosis Potential of Polyphenolic Compounds from Propolis: A Scoping Review

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ABSTRACT

Atherosclerosis, which is related to cardiovascular disease, is a chronic condition of inflammation of the vessels blood that damages arteries due to cholesterol buildup and oxidation. Several factors that can trigger atherosclerosis include high cholesterol levels in the plasma, distribution clogging cholesterol, and high levels of high blood pressure, blood sugar, oxidized LDL, and free radicals in the form of ROS (Reactive oxygen species). Propolis as a natural ingredient produced by bees is known to be able to overcome high cholesterol levels and prevent formation of atherosclerosis. The aim of this scoping review is to determine the effect of propolis on atherosclerosis from existing experimental studies. We used electronic databases such as ScienceDirect, MEDLINE/ Pubmed and Google Scholar published in 2012-2023. The polyphenolic compounds in propolis inhibit the growth of lesions atherosclerosis through modulation of lipoprotein profiles, control extracellular matrix degradation in atherosclerotic plaque, downregulation of cytokines, chemokines, proinflammatory, and reducing angiogenic factors regulation of mRNA expression (miR-181a, miR-106a dan miR-20b) as a key gene involved in the atherosclerotic process, such as MCP-1, INFg, IL6, CD36, and TGFβ.

Keywords: propolis, polyphenolic compounds, atherosclerosis, cardiovascular disease.



Correlation Of Serum Uric Acid Levels With Severity Of Hypertension In Pre-Elderly And Elderly People

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ABSTRACT

Background: Cardiovascular disease is a global health problem in the world as a global burden disease, including in Indonesia. Hypertension is a cardiovascular disease that has a high prevalence and can cause fatal complications. Uric acid has oxidative stress and pro-inflammatory effects that cause endothelial dysfunction and play a role in the mechanism of cardiovascular disease. Previous studies have shown that serum uric acid is correlated with blood pressure and cardiovascular disease. but the results for the pre-elderly and elderly have not been consistent.

Objectives: To determine the correlation between uric acid levels and the severity of hypertension in pre-elderly and elderly people.

Methods: This research is observational analytical research with a cross-sectional design. The research population was pre-elderly and elderly members of Sukoharjo Sleman Yogyakarta. Inclusion criteria were people > 45 years old who agreed to informed consent, and exclusion criteria were patients with cancer, gout, chronic kidney failure, or taking a uricosuric agent. The independent variable is serum uric acid level, and the dependent variable is hypertension, which is divided into normal, prehypertension, grade 1 hypertension, and grade 2 hypertension. Measurements are carried out at the same time. Data analysis used Spearman correlation analysis, with a P value <0.05 considered significant.

Results: There were 64 research subjects, consisting of 32 pre-elderly people and 32 elderly people. The average uric acid level was 7.6 mg/dl. The results of the correlation between uric acid levels and the severity of hypertension in the pre-elderly and elderly were p = 0.047 and r = 0.076.

Conclusions: There is a significant correlation between uric acid levels and the severity of hypertension in pre-elderly and elderly people.

Key words: Uric acid, severity of hypertension, pre-elderly, elderly



Correlation of Visceral Fat And Subcutaneous Adipose Tissue With Fasting Blood Glucose Level In Indonesian Young Adults

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ABSTRACT

Background. Obesity is linked to a higher risk of cardiovascular diseases. To understand the relationship between obesity and metabolic diseases, regional fat distribution has been thought to be more significant than overall fat volume. Impairment of glucose tolerance and insulin resistance are risks that are increased by visceral fat (VF). The distribution and function of subcutaneous adipose tissue (SAT) in various body compartments may vary, and this may have a distinct impact on how much insulin resistance is present. We aimed to evaluate the correlation of visceral fat (VF) and subcutaneous adipose tissue (SAT) with fasting blood glucose levels in Indonesian young adults.

Methods. This was a cross-sectional study. The study subjects included 170 healthy Indonesian young adults (18-20 y. o) in Yogyakarta. Baseline variables included plasma glucose measured after overnight fasting. Fat areas included visceral fat and subcutaneous adipose tissue measured by Karada scan.

Results. The results showed visceral fat percentage was positively correlated with fasting blood glucose level (p=0.032; r=0.164). Body fat and subcutaneous adipose tissue (whole body, trunk, arms, and legs) percentage were not correlated with FBG (p>0.05).

Conclusion. There was a positive correlation between visceral fat (VF) with fasting blood glucose (FBG) levels in Indonesian young adults.

Keywords. visceral fat, subcutaneous adipose tissue, body fat percentage, fasting blood glucose, insulin resistance



The Correlation of Neck Circumference, Waist Circumference, And Waist to Height Ratio (WHTR) To Triglycerid at Young Adults

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ABSTRACT

There are more people suffering from chronic diseases than ever before, and their numbers are getting younger. Young adults frequently evade the healthcare system, which deters them from being concerned about their long-term health. Triglyceride and triglyceride-rich lipoprotein levels are significant cardiovascular risk factors as well. Triglyceride-rich lipoproteins have the ability to cross the endothelium, build up, and accelerate the development of atherosclerosis. We aim to know how different anthropometric measurements correlate with triglyceride levels. The entire selection of 180 respondents yielded 140 eligible data. The majority of the respondents were female. According to body mass index, the nutritional status of respondents is overweight (BMI 23.24 4.58 kg/m2). Compared to women, whose waist circumference is greater than optimal (>80cm), male respondents had an ideal waist circumference (90cm). There was no correlation between triglyceride levels and neck circumference, waist circumference, or waist to height ratio (WtHR). These findings contradict earlier studies that claimed there was a relationship between LP, WtHR, and TG levels in the young adult.

Keywords: neck circumference, waist circumference, waist to height ratio, cardiovascular risk, young adult



Effects of Probiotics on Hypertension: A Review

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ABSTRACT

Probiotics are live microorganisms consisting of various microbial strains such as Lactobacillus, Bifidobacterium, and Lactococcus, Streptococcus, and Enterococcus. Hypertension is a risk factor for chronic diseases including ischemic heart disease, heart failure, stroke, and kidney failure as well as their complications. Probiotics have an effect that can inhibit the development of pathogenic bacteria which affect disease risk, but the mechanism of their effects on hypertension has not been widely discussed. The purpose of this review is to determine the effects of probiotics on hypertension sufferers. The method used in this research was to search for journals using the search media in PubMed, Google Scholar, and Google within the publication limits between 2015 and 2019. The literature used was publication in English. We found that there is a relationship between the influence of probiotics and pathophysiology through the mechanism of the microbiota in the gut. In pre-hypertensive and hypertensive patients, the number of presentations of the genus Prevotella bacteria increase while healthy individuals have abundant bacteria from the genus Bacteriodetes. Compared to healthy individuals, pre-hypertensive or hypertensive patients have Faecalibacterium, Roseburia, and Bifidobacterium bacteria which are associated with intestinal microbial homeostasis and SCFA butyrate production that can affect the cardiovascular system. Several studies have shown that probiotics consumed in sufficient quantities have the effect of reducing blood pressure in humans with pre-hypertension and hypertension. Further studies are needed to determine the mechanism of probiotics and their effects on hypertension and its complications.

Keywords: Probiotics, hypertension, SCFA, GABA



Description Of Nutritional Status Of Medical Students In Online And Offline Learning

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ABSTRACT

The existence of a new policy from the government, namely students have returned to using face-to-face learning (PTM) makes them have to adapt again to the new learning environment. Implementation of online learning during the Covid-19 pandemic caused changes in physical activity and eating patterns. This is likely to affect the nutritional status of students. Therefore, research is needed to describe the nutritional status of students during the online learning period and compared to offline. The aim of this research to know the difference between the medical students' nutritional status at Universitas Islam Indonesia class of 2020 in the first year during the online learning and the second year during luring learning. This study is an analytical observational study using the cross- sectional method which was held in September-November 2022. Subjects was determined by simple random sampling. 95 respondents meet the inclusion and exclusion criteria and agreed the inform consent. The data was obtained by questionnaire that shared through google form. The data was analyzed with bivariate analysis.

The result of this study, there was a difference in nutritional status which observed through body weight, height, nutritional intake and macronutrients, and physical activities in medical students of Universitas Islam Indonesia class of 2022 in online and offline learning.

Keyword: offline learning, online learning, nutritional status, adolescents.



Study of Body Mass Indeks and Blood Pressure among Medical Students

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Abstract

Background. Besides occurring in adults and the elderly, younger people can also experience hypertension. According to data from several studies, hypertension can occur since adolescence and has recently experienced an increasing prevalence. One of the complications of obesity is an elevation in blood pressure which can increase the risk of hypertension. This study aimed to explore body mass index (BMI) and blood pressure among medical students. **Methods.** This study was conducted in a cross-sectional design on 47 medical students of YARSI Medical School, Jakarta in 2017. The data were body mass index, physical activity level, calory intake, and blood pressure. **Results.** The mean of age were 21 years old. There were 46.8% of medical students who categorized obesity (BMI \geq 25 kg/m²) with mean of BMI 30.10 ± 4.05 kg/m². The most medical students had low level of calory intake (95.7%) and moderate level of physical activity (65,9%). There were 25.5% medical students had high blood pressure (\geq 140/90 mmHg). The relationship between hypertension and obesity were significant (*Chi-Square Test, p<0.05*). **Conclusion.** High body mass indeks is a one risk factor of hypertension. It needs our attention because hypertension in adolescence could lead to degenerative diseases in the future. **Keywords: body mass indeks, hypertension**

"Optimizing Collaboration to Improve Cardiovascular Diseases Outcomes in Developing Country"



Productive Age Hypertension Risk Factors at Singgani Public Health Center, Palu City

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ABSTRACT

Background: Hypertension, a non-communicable disease (NCD), is a critical health concern globally, including Indonesia. According to the World Health Organization (WHO) data from 2015, approximately 927 million people worldwide, or 26.4% of the population, have hypertension. In Indonesia, the Basic Health Research (Riskesdas) in 2018 reported a prevalence rate of 34.1% for hypertension. Hypertension was the leading cause of visits to the Singgani Health Center in Palu City in 2018, with a total of 2,788 cases. According to the 2018 Hammer City Health Profile, there were 836 individuals of productive age at risk for hypertension. This study aims to identify the risk factors associated with hypertension during the productive years among patients receiving care at Singgani Health Center, Palu City.

Methods: This research study has an observational design, utilizing a Case Control approach. The cases are individuals of productive age who have hypertension, while the controls are productive age individuals without hypertension. Both case and control groups consist of 62 participants, matching in age and gender. The purposive sampling technique was applied in the selection of participants. The data collected was analyzed using the chi-square test at a significance level of $\alpha = 5\%$ and a confidence level of 95% CI.

Results: The results showed that Obesity (OR=3,53; 95%CI=1,60-7,77), smoking (OR=2,21; 95%CI=1,03-4,73), Sleep Duration (OR=2,73; 95%CI= 1,19-6,27) and Stress (OR=3,47; 95%CI=1,44-8,32) are risk factors for hypertension in productive age.

Conclusion: Obesity, smoking, inadequate sleep duration, and stress are all risk factors for hypertension. Health center officers play a crucial role in promoting healthy living among individuals of productive age, which includes following a healthy diet, exercising regularly to maintain a healthy body weight, refraining from smoking, getting enough sleep, and managing stress levels.

Keywords : hypertension, productive age, smoking, sleep duration, stress



Determinants of Hypertension in Posbindu PTM (Non-Communicable Disease Integrated Coaching Post) Participants at Sawangan II Public Health Center

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ABSTRACT

Management of hypertension includes controlling its risk factors. Posbindu PTM aims to monitor and evaluate risk factors to prevent morbidity and mortality. This study investigates hypertension determinants in Posbindu PTM participants at the Sawangan II Public Health Center. Cross-sectional research involved 272 participants who attended the Posbindu PTM in June-July 2022 at the Sawangan II Public Health Center, Magelang, Central Java. Data were analyzed using chi-square and logistic regression. Among 272 Posbindu PTM participants, there were 145 (53.3%) posbindu participants who experienced hypertension, age (p=0.002; OR 3.136), education level (p=0.015; OR 2.739), and family history of hypertension (p=0.002; OR 1.895) associated with the incidence of hypertension. Multivariate analysis by controlling the variables gender, BMI, education level and smoking status found that those aged 45 years and over (aOR 3.337, 95% CI 1.408-7.907) and having a family history of hypertension, non-modifiable risk factors, are determinants of hypertension in Posbindu PTM participants at Sawangan II Public Health Center. It is necessary to identify other modifiable risk factors, such as diet and physical activity, and promote efforts to monitor these risk factors.

Keywords: Hypertension; Age; Family History; Determinant.



Blood Pressure Profile of Faculty of Medicine Students Universitas Islam Indonesia

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ABSTRACT

Background: Having a history of high blood pressure at a young age was linked to the risk of heart attack and stroke in reproductive age. Medical students are considered to have high stressors. High stressors can cause an increase in blood pressure.

Objective: to determine the blood pressure profile of medical students at the Faculty of Medicine, Universitas Islam Indonesia.

Method: This research uses observational research with a quantitative approach, correlative in nature, and with a cross-sectional design.

Result: This research involved 66 female students aged 19-23 years. Based on research that has been carried out, the average systolic blood pressure value is 105.68 mmHg with a minimum value of 85.5 mmHg and a maximum value of 126.5 mmHg. The average diastolic blood pressure value was 72.98 mmHg with a minimum value of 57 mmHg and a maximum value of 96 mmHg.

Conclusion: From the blood pressure examination carried out, the average systolic and diastolic blood pressure of medical students are normal.

Key words: Blood pressure, students, faculty medicine



Comparison of Manual Versus Digital Sphygmomanometers In Older People With Stage 2 Hypertension In Indonesia

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ABSTRACT

Routine blood pressure monitoring is essential in managing hypertension, the most common attributable risk factor for cardiovascular diseases. The manual mercury sphygmomanometer is the standard device for blood pressure measurement but concerns about mercury toxicity have led to its replacement with a digital sphygmomanometer. Few studies have compared these two devices for measuring blood pressure in Indonesians with stage 2 hypertension. This cross-sectional study compared the readings taken by the two devices in 76 older people (mean age 68.3 ± 9.67 years; range 48-89) diagnosed with stage 2 hypertension who were members of an Integrated Health Service Post for the Elderly in Dlingo subdistrict, Yogyakarta province, Indonesia. Blood pressure was measured twice for each type of sphygmomanometer. Data were analyzed using Lin's concordance correlation coefficient. The mean systolic blood pressure was 168.31 mmHg and 176.2 mmHg for the mercury and digital sphygmomanometers, respectively. The mean diastolic blood pressure was 97.92 mmHg and 97.77 mmHg for the mercury and digital sphygmomanometers, respectively. The concordance correlation coefficients were 0.56 and 0.68 for systolic and diastolic blood pressure, respectively. Based on Lin's score, the digital device demonstrated poor concordance (p<0.90) compared with the manual device. This study showed discrepancy between the two methods. Considering a plan to replace the mercury sphygmomanometer with the digital sphygmomanometer for blood pressure measurement, further research into the accuracy of these measurements is needed for different settings and groups of people.

Keywords: blood pressure measurement, mercury sphygmomanometer, digital sphygmomanometer, concordance



The Differences In Blood Pressure, Anthropometric And Laboratory Measurement In Various Types Of Work: An Observational Study In Rural Communities

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ABSTRACT

Background. Over the past few decades, non-communicable disease prevalence has tended to rise. Rural regions also demonstrated this growing tendency. Farmers and laborers hold the majority of lowly employment in rural regions. The impact of this kind of employment in rural regions on different cardiovascular disease risk factors has not received significant investigation.

Objective: This study's objective is to examine how various forms of employment affect various cardiovascular health markers in rural regions.

Method: A cross-sectional design study assessed differences in mean abdomen circumference, systolic and diastolic blood pressure, instantaneous blood sugar levels, and uric acid levels between diverse jobs.

Results: More than half of the 184 participants who participated for this study worked as farmers or manual workers. In an analysis of mean differences across jobs, the measurements of abdomen circumference, systolic and diastolic blood pressure, and instantaneous blood sugar levels were shown to be statistically significant, with p values of 0.000, 0.002, and 0.010, respectively. The p value for uric acid levels was shown to be 0.100.

Conclusion: Abdominal circumference, systolic and diastolic blood pressure, and instantaneous blood sugar levels are significantly influenced by occupational disparities in rural populations.

Keyword: non-communicable disease, cardiovascular disease.



Effect of different levels of education on blood pressure, anthropometric and biometabolic measures, a comparative study in rural elderly

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ABSTRACT

Background. The epidemiological transition, as experienced by other countries in the world, is also happening in Indonesia. The prevalence of non-communicable diseases, including cardiovascular disease, is increasing, and there is a tendency for this pattern to also be found in rural communities. Rural residents are generally characterized as having a relatively low level of education compared to other areas. Not much has been explored regarding the relationship between education level in rural areas and the risk of cardiovascular disease.

Objective: This study aims to compare systolic and diastolic blood pressure, body mass index and abdominal circumference as well as blood sugar and uric acid levels between those with high vs. low education in rural areas. **Methods:** This cross-sectional design study compared the mean systolic, diastolic blood pressure, abdominal circumference, instantaneous blood sugar levels and blood uric acid between participants with high school/college education (high) vs junior high school or below (low).

Results: A total of 184 respondents voluntarily participated in this research. There were statistically significant differences between high vs. low educated participants in mean (standard deviation/SD) abdominal circumference, systolic and diastolic blood pressure, respectively: 89.64 (9.05) vs. 84.89 (4.20), p =0.003; 127.51 (17.01) vs 140.83 (25.71), p=0.004; 79.16 (11.35) vs 86.40 (13.90), p=0.004; and 103.70 (31.11) vs 124.77 (74.06), p=0.018.

Conclusion: a high level of education increases the risk of high abdominal circumference, a low level of education increases the risk of systolic and diastolic hypertension and high blood sugar levels.

Keyword: cardiovascular disease, diastolic blood pressure



Gender differences in abdominal circumference, blood pressure, glucose levels and capillary uric acid; a comparative study in rural Indonesian communities

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ABSTRACT

Background.: Indonesia is presently going through an epidemiological change as a result of a significant older population, with the prevalence of non-communicable diseases beginning to rise. In Indonesia today, non-communicable cardiovascular disease is frequently to blame for people's health problems. Studies on the relationship between gender and the prevalence of cardiovascular diseases are contradictory and ambiguous. The objective of this research is to determine how gender influences various risk factors for cardiovascular disease.

Objective: analyzed differences the mean abdomen circumference, systolic and diastolic blood pressure, blood glucose levels in the present situation, and blood uric acid levels in rural men and women.

Method: This study had a cross-sectional design, analyzing the average differences between abdominal circumference, systolic and diastolic blood pressure, instantaneous blood glucose levels, and blood uric acid, between women vs. men in rural areas.

Result: Statistically significant mean differences in abdominal circumference and blood glucose levels at any time. Differences in mean (standard deviation/SD) abdominal circumference and glucose levels between women vs men respectively: 86.27 (11.51) vs 84.40 (18.65), p=0.014; 115.20 (60.34) vs 138.57 (88.03), p=0.000.

Conclusion: In rural populations, women have significantly larger abdominal circumferences than men. Men have significantly higher blood glucose levels than women.

Keywords: non-communicable, cardiovascular disease.



ID: P5.1

Health Service Management on Productive Age in The Working Area Batu City Health Office Year 2023

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ABSTRACT

Background: Indonesia's population projection in 2025 shows an increase in the productive age as a demographic bonus. The productive age reaches 69.3% of total population Indonesia. The quality of the age generation production at that time will determine Indonesia's chances of becoming developed country. The productive age must be strived to be healthy because it is the successor of the nation's generation and a prospective elderly who are expected to become healthy, active, and productive elderly. In Indonesia, of all deaths that occur in the population of productive age or aged <60 years, 29% are caused by Non-Communicable Diseases.

Methods: The observational descriptive research design was carried out at the Batu City Health Office from July 10 to August 4,2023. The research process begins with problem identification using brainstorming techniques, determining problem priorities using USG (Urgency, Serioueness, Growth), identify the root cause of problem using epidemiological model, and identify troubleshooting with CARL (Capability, Accessability, Readiness, and Leverage) methods. Data collection used a questionnaire guideline with 6 informants.

Results: Based on the identification problems, there are four problems in health services of productive age and the priority of the problem is the lack of achievement Minimum Service Standards for non-communicable disease screening at productive age. The root cause of the priority of problems is insufficient human resources to screening checks, poor reporting systems, public attitudes that are less concerned with non-communicable diseases and others. **Conclusion**: The achievement of Minimum Service Standards for non-communicable disease screening in productive age has increased from 2019 to 2022, namely 2019 (19.9%), 2020 (25.1%), 2021 (56.0%), and 2022 (78.5%) but has not yet reached the national target of 100.0%. It is necessary to establish and train cadres regularly, conduct advocacy and cooperation with cross-sectoral, and provide digital reporting facilities.

Keywords: productive age, screening, health



ID: P5.2

Quality of Life of Prolanis and General Hypertension Patients in Kedawung District, Sragen

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ABSTRACT

The prevalence of hypertension increases rapidly, and hypertension can become a silent killer without adequate management. Prolanis participants get the benefits of regular and free hypertension management. However, many non-prolanis hypertension patients have threatened irregularity and continuity of treatment. This study aims to determine the quality of life of Prolanis and non-Prolanis (general) hypertension patients. The cross-sectional study was followed by 104 Prolanis patients and 103 general patients diagnosed with hypertension who came to health facilities in Kedawung district Sragen. Quality of life is measured using the Indonesian version of the EUROQOL questionnaire, which consists of 5 dimensions and a visual analogue score (VAS). Data analysis using Mann Whitney U. The study found a greater proportion of Prolanis patients compared to general patients who had no complaints in the dimensions of self-care (93.1% and 84.7%), daily activities (76.5% and 68.0%), and anxiety/depression (68.3% and 63.5%). However, the proportion of Prolanis patients was lower than general patients for no complaints of walking ability (58.8% and 60.2%) and pain/discomfort (32.7% and 39.6%). The average quality of life-based on VAS in Prolanis patients (77) is higher than in general patients (72). The average utility index for the Prolanis group (0.7907) was slightly higher than the general group (0.7757). The mean VAS rank and utility index in the Prolanis group were higher than in the general group, but they were not statistically different (p=0.081 and p=0.877). The quality of life of Prolanis hypertensive patients is better than that of general patients, but this is not statistically significant. Special attention is needed for non-Prolanis hypertension patients to ensure the regularity and adequacy of hypertension management.

Keyword : Hypertension; Prolanis; Quality of Life


Life Quality Description of Elderly Ischemic Stroke Survivors at Regional Public Hospital dr. H. Slamet Martodirdjo Pamekasan

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ABSTRACT

Life quality assessment is very important for stroke survivors because it can determine strategies for planning poststroke therapy and evaluate the success of the intervention used. Quality of life includes four dimensions (physical condition, psychological condition, social relationships, and environment). The aim of this research is to describe the life quality of 103 elderly ischemic stroke survivors who were outpatients at RSUD Dr. H. Slamet Martodirdjo Pamekasan. The sampling technique in this study was simple random sampling. World Health Organization Quality of Life-BREF (WHOQOL BREF) questionnaire was used to measure the life quality of stroke survivors. Findings of these studies the life quality description of elderly ischemic stroke survivors seen from the physical health dimension has a good quality of life (66%), psychological health dimension has a good quality of life (74.8%), social relations dimension has a good quality of life (77,7%), and environmental dimension has a good quality of life (91,3%). The life quality description of elderly ischemic stroke survivors has a good quality of life (77,7%). Based on this research, it can be information for health workers to develop appropriate interventions for improving the life quality of elderly stroke sufferers, such as home visit programs to monitor the life quality of stroke survivors and provide education to maintain their health. In addition, health workers not only focus on survivors but also caregivers at home such as increasing their knowledge and skills about caring for stroke sufferers and family support with education and training.

Keywords: Quality of Life, Stroke Survivors, Elderly



Psychological Disorders in The Incident of Hypertension in The Petobo Refuge Affected BT Liquifaction in Palu City

(Cross Sectional Study)

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ABSTRACT

Background: Hypertension is a global public health problem and is the leading cause of death in the last 15 years. The prevalence of hypertension in Indonesia is 34,11%. Hypertension is among the top 10 diseases in the regency/city affected by the earthquake-tsunami and the liquefaction period from October to November in 2018 with a total of 1,497 cases in the city of Palu. The highest number of cases is in Petobo in the working area of Puskesmas Bulili 249 cases.

Objective: The purpose of research is to analyze the psychological disorder in the incidence of hypertension on the shelter of Petobo Palu City which affected by the liquefaction.

Method: A quantitative research type with a cross sectional approach. The sample was all patients who visited the health post at the Petobo refugee camp, totaling 243 respondents taken by accidental sampling. The dependent variable is hypertension, and independent variables are anxiety, depression, and stress. Data collection was carried out from March to May 2019 using chi-square test analysis.

Result: The chi-square test results show that anxiety ($\rho = 0.031$), depression ($\rho = 0.008$), and stress ($\rho = 0.000$) are associated with the incidence of hypertension.

Conclusion: There is a correlation between anxiety, depression, and stress and the incidence of hypertension at the Petobo Refugee Health Service Post. It is expected that hypertension sufferers should do breathing and meditation relaxation to avoid anxiety, combat negative thoughts and perform physical activities and often participate in social interactions to avoid depression and stress.

Keywords: Anxiety, Depression, Stress, Hypertension.



The Relationship between Diagnosis and The Chronic Disease Management Program Patients' Quality of Life at Public Health Centre Salam Magelang

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ABSTRACT

Chronic disease is a long-lasting health problem. Hypertension and Diabetes Mellitus are the most common chronic disease. The prevalence of hypertension and diabetes mellitus in Indonesia is 12.9% and 8.5%, respectively. The overlapping of both diseases could influence the quality of life if left uncontrolled. This research aims to assess the relationship between the diagnosis of hypertension alone and hypertension with diabetes mellitus and the chronic disease management patients' Quality of Life at public health centre Salam Magelang. This research used a crosssectional analytical observational method at Public Health Centre Salam Magelang on The Chronic Disease Management Program event on April 19th and 20th, 2023. The patient's quality of life was evaluated using the WHOQOL-BREF questionnaire. Patients' diagnosis obtained from the medical record confirmed with laboratory test. Demographic data is described. The statistical test used for this research is the chi-square or Fisher exact test as an alternative. The result is significant if p<0.05. The result showed that the chronic disease management program is dominated by the age group of geriatric (61.9%). Based on sex, the chronic disease management program patients' majority are women (73.0%). Most patients have normal Body Mass Index (BMI) (55.6%). Controlled Hypertension and Hypertension-DM patient proportion is 41.2%, 41.4%, respectively. There is no significant correlation between the patients' diagnosis with physical, psychological, social, and environmental quality of life (p value 0.694, 0.618, 0.77, and 0.618. There is no significant correlation between the chronic disease management program patients' diagnosis with the four domains of quality of life.

Keywords: hypertension, quality of life



Reasons for Medication Non-Adherence in Hypertensive Patients Aged 15-64 Years: Descriptive Study in Indonesia

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ABSTRACT

Background: One of the cornerstones of effective hypertension treatment is medication adherence. Unfortunately, medication non-adherence is relatively common in hypertension patients. This non-compliance is correlated with uncontrolled blood pressure and consequences such as stroke, heart disease, kidney disease, and mortality.

Objective: To explain the reasons for medication non-adherence in productive-age hypertensive patients in Indonesia. **Methods:** This descriptive analysis used secondary data from the 2018 Basic Health Research (Riskesdas). The study participants were 31,348 persons of productive age (15-64 years), hypertensive, and taking hypertension medication irregularly or not at all. Data were processed descriptively and presented as a frequency distribution table.

Results: The study found that 53.9% of hypertensive patients aged 15-64 years were not compliant with taking medication. The majority of patients who were noncompliant with medication were female (65.4%), lived in rural areas (55.1%), aged 25-34 years (34.2%), had high school education (22.4%), and did not work (33.4%). The reasons why patients did not adhere to taking medication were feeling healthy (60.0%), not regularly visiting health facilities (27.6%), taking traditional medicine (17.0%), often forgetting (11.4%), not being able to afford routine medication (6.4%), not tolerating side effects (4.2%), and medication not available at health facilities (2.1%).

Conclusion: Medication non-adherence remains significant among hypertension patients aged 15-64 in Indonesia. Patients' most common justification for avoiding taking medication is because they feel well. Educational interventions concerning hypertension symptoms, indicators, and problems are critical for making patients aware of the significance of taking medicine as their doctor prescribes.

Keywords: medication non-adherence, hypertension, non-compliance



Correlation Between Adherence to Antihypertensive Drugs With Blood Pressure Of Prolanis Participants in Puskesmas Tanon II

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ABSTRACT

Hypertension is a global health problem resulting in increased morbidity and mortality rates. Data according to Basic Health Research (Riskesdas) in 2018 shows that the increase in the prevalence of hypertension in Indonesia with a total population of around 260 million is 34.1%. This research aims to determine the relationship between adherence to taking hypertension medication and blood pressure. blood of Prolanis participants at Tanon II Community Health Center, Sragen Regency, Central Java. The design of this research is observational analytic with cross-sectional type. This research uses primary data in the form of a questionnaire regarding medication adherence. The population in this study were all Prolanis participants at the Tanon II Community Health Center on August 4 and 5 2023. Samples were taken using a total sampling technique of 40 people. The results of univariate analysis show that the majority of respondents in this study were women (87.5%), while the rest were men (12.5%). Most of the respondents in this study were dominated by those aged >= 60 years (55%) and the majority of respondents in this study were elementary school graduates (32.5%). The results of the univariate analysis also showed that the sample had a normal BMI (80%), had comorbidities (52.5%), had hypertension < 5 years (52.5%), and had controlled systolic blood pressure (67.5%). Bivariate analysis found a significant relationship between education level and adherence to taking hypertension medication with a value of p = 0.012and a significant relationship between duration of hypertension and compliance with taking hypertension medication with a value of p = 0.007. By obtaining this significant relationship, it is necessary to provide education regarding the importance of adhering to taking hypertension medication to Prolanis participants to prevent complications that can arise.

Keywords : Hypertension; Drug adherens; Prolanis



The Erythropoetin Level and Thyroxine Hormone in Chronic Renal Failure

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ABSTRACT

Background: Chronic kidney disease is a pathophysiological process with a diverse etiology, leading to a progressive decrease in renal function, and generally end up with kidney failure. Furthermore, kidney failure is a clinical condition characterized by an irreversible decrease in kidney function, until to a certain degree requiring permanent renal replacement therapy, in the form of dialysis or kidney transplantation. Erythropoietin has a function of handling anemia in chronic renal failure. r-HuEpo (recombinant human epoietin) is one of the treatments given to patients with chronic renal failure. r-HuEpo is given intravenously or subcutaneously, 1-3 times a week.

Aims: The purpose of this study is to assess the effect of erythropoietin on levels of T4 (Thyroxine) in blood in patients with chronic renal failure.

Methods: This research design was quasi-experimental. Sixteen chronic kidney failure patients with age criteria of 35-70 years, male and female. Control group (no treatment) and treatment group (administration of r-HuEpo therapy once a week at a dose of 1000 units/hour for 4 hours). The research data were analyzed by independent t-test.

Results: The average blood levels of the hormone T4 after treatment in the control group was 5.64 (p> 0.05) and 7.60 in treatment groups (p> 0.05).

Conclusion: the erythropoietin can increase levels of the hormone T4 (Thyroxine) in patients with chronic renal failure although not significantly.

Keywords: Chronic kidney disease, erythropoietin, thyroxine hormone



The Relationship Between Smoking With Carboxyhemoglobin Levels In School-Age in Batu

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ABSTRACT

Background. Smoking is the second highest risk factor for Smoking attributable disease. Smoking is also thought to affect other blood components, such as erythrocytes, platelets, hemoglobin, and so on. Carbon monoxide contained in cigarettes has a great affinity for hemoglobin, making it easier for the two to bind together to form carboxyhemoglobin, an inactive form of hemoglobin. This results in hemoglobin being unable to bind oxygen to be released to various tissues, causing tissue hypoxia.. This study aims to analyze the relationship between smoking and carboxyhemoglobin levels.

Method. The method used was an analytic study with a cross sectional design using secondary data. The population in this study was all smoking screening data of school-age children in Batu city. The sample in this study was part of the data of school-age children in Batu city totaling 500 student data.

Results. Smoking (OR=1.084; 95%CI= 1.043 to 1.126; p=<0.001), Sex (OR=0,949; 95%CI= 0.926 to 0.973; p=0.001), length of smoking (OR=3.374; 95%CI= 2.904 to 3.893; p=0.001) means smoking, sex, and length of smoking are associated with abnormal carboxyhemoglobin levels in school-age. Students who do smoke are likely to have abnormal carboxyhemoglobin levels by 1.084 times compared to those who no-smoke. Students who smoke for more than 4 years are 3.374 times more likely to have abnormal carboxyhemoglobin than those who smoke for less than 4 years. Female have a protective factor of 0.949 times compared to male to have normal carboxyhemoglobin.

Conclusion. Smoking, length of smoking, and sex are associated with abnormal carboxyhemoglobin levels. Smoking cessation programs and the implementation of "no smoking areas" in the school environment must be intensified.

Keyword: Smoking, Carboxyhemoglobin, School-age



The Effect of E-cigarettes Use on Physical Fitness: A Scoping Review

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ABSTRACT

Background: Electronic cigarettes (e-cigarettes) are battery-powered electronic devices that deliver nicotine in vapor form. The use of e-cigarettes has been shown to have a negative impact, especially on the cardiorespiratory system, such as increasing blood pressure, heart rate and arterial stiffness, as well as causing resistance to airflow in the lungs. This is closely related to body fitness, particularly cardiorespiratory fitness which reflects the ability of the heart and lungs to efficiently circulate blood containing oxygen to meet the metabolic needs of muscles during activities. This scoping review examines further how e-cigarettes affect physical fitness in terms of cardiorespiratory parameters.

Method: The data source used is original articles regarding the effects of e-cigarettes on physical fitness and designed as clinical trials or randomized controlled trials (RCTs). Article search is not limited to a certain year range and is in English. The databases used are PubMed, ScienceDirect, and EBSCO using Boolean search. The search results articles were selected based on the PRISMA-ScR flow.

Results: After analyzing ten articles, there were six articles showing significant negative effects on the cardiovascular and respiratory systems. Four articles showed significant positive effects on the cardiovascular and respiratory systems, wherein one article showed no negative effect on myocardial function and the other three articles showed positive effect from switching tobacco cigarettes to e-cigarettes.

Conclusion: The results of this scoping review show that e-cigarettes have a negative effect on several cardiorespiratory parameters, including increased blood pressure, resting heart rate, and decreased lung function. In addition, e-cigarettes can also have positive effects on cardiorespiratory parameters, such as decreasing resting heart rate and increasing endothelial function in smokers who switch to using e-cigarettes.

Keywords: E-cigarettes, Physical Fitness, Cardiorespiratory Fitness.



Vascular Endothelial Growth Factor (VEGF) Biomarker As Predictor For Alzheimer's Dementia: Scoping Review

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ABSTRACT

Background: Biomarkers for Alzheimer's dementia are needed because the prevalence is increasing. As many as 46 million sufferers with 22 million in Asia, with sufferers in Indonesia during 2013 reaching 1 million, which is estimated to dramatically increase 2 times by 2030 and 4 million by 2050. Mentioned VEGF (Vascular Endothelial Growth Factor) was examined from cerebrospinal fluid specimens, serum, blood plasm, brain tissue. VEGF plays a role in mediating angiogenesis, neural migration, neurogenesis factor, learning, memory, apoptosis inhibition and neuroprotection in Alzheimer's dementia.

Objectives: The purpose of this scoping review is to reviewing the literature about the role and process of VEGF biomarker examination predictor for Alzheimer's dementia.

Method: The literature search is done through several electronic database (Pubmed, Scopus, EBSCO, Science direct, Cochrane) from 2013 to 2023 using keywords; Vascular Endothelial Growth Factor (VEGF), Biomarker, Alzheimer's, Dementia and Predictor.

Results: on process

Conclusion: on process

Keywords: Vascular Endothelial Growth Factor, Biomarker, Alzheimer's, Dementia, Predictor



Bibliometric analysis of stunting-themed publication trends in Indonesia

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Background: Stunting has been identified as a top public health priority and there are targets to reduce the prevalence of stunting. Through this bibliometric study, we can find out the number of core journals in international publications on the topic of stunting in Indonesia as well as a map of the development of international publications on research on the topic of stunting in Indonesia.

Objective: to determine the development of the number of international publications on the topic of stunting in Indonesia from 2013 - 2023.

Method: Search for articles using a database published in Scopus in the period 2013 - 2023. The keywords used are stunting and Indonesia. A database search was carried out on July 15, 2023. Bibliometric data processing, using VOS Viewer.

Results: a search on the Scopus database found 534 articles about stunting in Indonesia published in the period 2013 to 2023. The publication themes that emerge regarding stunting in Indonesia relate to several main things including nutrition and policy making. There are 6 research clusters on Scopus in Indonesia over 10 years which cover several topics including malnutrition, wasting, undernutrition, underweight, breastfeeding, complementary feeding, and birth with stunting. There has been an increase in the number of publications from 2014 to 2022. The most cited articles come from publications in the journal Maternal and Child Nutrition. The second most frequently cited article is published in the journal The Lancet. Other articles that are frequently cited are generally published in Scopus journals with indexes Q1 and Q2. **Conclusion**: The many themes in the discussion regarding stunting show that many factors influence the incidence of stunting. Many themes can become research and publication topics.

Keywords: Stunting, Indonesia, bibliometrics



Dhikr Decrease Blood Pressure in Female Hypertension Patients

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ABSTRACT

Background: Hypertension is a risk factor in heart failure, kidney failure, and stroke. Hypertension management requires non-pharmacological intervention. Dhikr could be one intervention to lower blood pressure.

Objective: This study aimed to examine the role of Dhikr in decreasing blood pressure in hypertension patients. **Method**: This study involved 20 hypertension women aged 35–50 who met the inclusion criteria. Blood pressure was measured by sphygmomanometer according to the standard guideline. There were two groups of participants, the experimental group and the control group. Data were analyzed using the Wilcoxon test.

Result: Systolic and diastolic blood pressure in the experimental group were decreased after receiving the Dhikr intervention. The average blood pressure was 134/88 mmHg before intervention and 119/80 mmHg after intervention. Wilcoxon test in the experimental group shows p = 0.005; p = 0.011 (95% Cl) for systolic and diastolic respectively. Meanwhile, in the control group p = 0.497; p = 0.285 for systolic and diastolic respectively. **Conclusion**: Dhikr affects lowering blood pressure in hypertension patients.

Keywords: Dhikr, Hypertension, Women, Blood pressure, Religion



Cortisol Hormone Effect on Changes in Muscle Mass After Resistance Training: A Scoping Review

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ABSTRACT

Background: Resistance training is an exercise intended to train strength and endurance in skeletal muscles. Resistance training can affect cortisol levels in the body. Increased physical stress during resistance training will increase cortisol levels during exercise and lower levels during the resting phase. Decreased cortisol levels during the resting phase are associated with p70S6K phosphorylation of protein signaling for synthesis in muscle mass.

Objectives: The purpose of this scoping review is to determine the effect of the hormone cortisol on changes in muscle mass in resistance training

Methods: In this scooping review research, we searched for articles from 4 databases (PubMed, ScienceDirect, Sagejournal, and Google Scholar). All articles are identified by the provisions that we have implemented. There were 3 articles included and 11 articles excluded in this study.

Results: The results we found in the identified articles are as follows (a) Resistance training can increase muscle mass for a certain period after exercise (b) Resistance training can reduce cortisol levels in the resting phase.

Conclusion: This scooping review concludes that during resistance training there is a change or growth in muscle mass and a change or reduction in serum cortisol.

Keywords: resistance training, cortisol, muscle mass



Endocrine-metabolic Complications As Prognostic Indicators Of Severity In Plasmodium Falciparum Infection: A Scoping Review Study

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ABSTRACT

Background: Plasmodium falciparum is known to cause severe malaria, with its pathogenesis involving the processes of sequestration, rosetting, and cytoadherence. These processes can lead to a reduction in organ perfusion and dysfunction of endocrine-metabolic organs. We conducted a scoping review to investigate the impact of endocrine-metabolic complications on the prognostic markers of P. falciparum infection.

Method: Original articles on endocrine-metabolic complications in falciparum malaria published in English and Indonesian from 2015 to 2022 were sourced from reputable databases such as PubMed, Science Direct, Google Scholar, and Portal Garuda, using a Boolean search strategy. The selection of articles adhered to the PRISMA-ScR flowchart, followed by data extraction, itemization, and result synthesis to effectively address the review objective.

Result: Five articles were obtained, consisting of three studies in Indonesia, one in India, and one in Ghana. All five studies have demonstrated the influence of endocrine and metabolic complications on the prognosis and outcome of patients with severe malaria infected with P. falciparum. Falciparum malaria causes liver tissue damage or liver dysfunction characterized by an increase in SGOT and SGPT. Falciparum malaria can cause hyperbilirubinemia, which can lead to jaundice. Severe malaria complications in the kidneys can cause uremia, acute kidney failure, and even uremic encephalopathy. The presence or absence of organ dysfunction in patients with falciparum malaria can affect their prognosis. Patients with one or more organ dysfunction will experience poor prognosis.

Conclusion: The endocrine-metabolic complications that occur in patients with severe falciparum malaria affect the prognostic indicators of patients with falciparum malaria.

Keywords: falciparum malaria, kidney dysfunction, liver dysfunction, hyperbilirubinemia, prognosis.