UIMC 2024
UniSZA International Multidisciplinary Conference

UNIVERSITI SULTAN ZAINAL ABIDIN

4th IPRC2024
INTERNATIONAL POSTGRADUATE RESEARCH CONFERENCE

4th International **Postgraduate Research Conference 2024**

Abstract Proceedings

24th - 25th August 2024

Dewan Kuliah Utama (DKU), Universiti Sultan Zainal Abidin, Terengganu Darul Iman, Malaysia

"Empowering Collaborative Research Through Nurturing Innovation"

Organiser:

GRADUATE SCHOOL
UNIVERSITI SULTAN ZAINAL ABIDIN

Co-Host:

International Islamic University Malaysia

Universiti Islam Sultan Sharif Ali

Universiti Malaysia Terengganu

Co-organiser by:

Borneo Empurau Farm & Resort Sdn. Bhd.

ORGANISER:

GRADUATE SCHOOL
UNIVERSITI SULTAN ZAINAL ABIDIN

CO-HOST:

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

UNIVERSITI ISLAM SULTAN SHARIF ALI, BRUNEI DARSUSSALAM

UNIVERSITI MALAYSIA TERENGGANU

CO-ORGANISER BY:

BORNEO EMPURAU FARM & RESORT SDN. BHD.

BOOK OF ABSTRACT PROCEEDINGS

4TH INTERNATIONAL POSTGRADUATE RESEARCH CONFERENCE 2024

(4th IPRC 2024)

24th-25th August 2024, Terengganu Darul Iman, Malaysia

Edited by

Dr. Che Ku Dahlan bin Che Ku Daud (Head)
Dr. Nornasuha binti Yusoff
Assoc. Prof. Dr. Azyyati binti Mohd Suhaimi
Dr. Nazmi bin Harith Fadzilah
Dr. Norhazilah binti Muhamad
Dr. Isyaku Hassan
Dr. Mohd Nur Nasyriq bin Anuar
Habibah binti Kamaruzaman

Terengganu, Malaysia

Published, 2024

CONFERENCE CONTENT

WELCOME MESSAGES

WELCOME TO 4th IPRC 2024

Professor Dato' Dr. Fadzli bin Adam
Vice Chancellor
Universiti Sultan Zainal Abidin

Assalamualaikum w.b.t and greetings to all,

Welcome to the 4th International Postgraduate Research Conference (IPRC) 2024, proudly organised by the Graduate School UniSZA in collaboration with International Islamic University Malaysia (IIUM), Universiti Islam Sultan Sharif Ali (UNISSA) Brunei Darussalam, and Universiti Malaysia Terengganu (UMT). It brings me great pleasure to witness the growth and success of IPRC following the previous events in 2019 and 2022, respectively.

This year's conference is organised under the UniSZA International Multidisciplinary Conference 2024 (UIMC 2024), which is held here in UniSZA Gong Badak Campus. The UIMC 2024 offers a comprehensive platform covering a diverse field of research, including state-of-the-art manufacturing innovations to contemporary Muslim issues, and this prestigious international postgraduate conference is categorised as held under 11 sub-conferences according to the respective themes.

The IPRC serves as a platform for postgraduate students, academicians, and researchers to share their research findings with peers from International backgrounds. This year, the IPRC has attracted an overwhelming response with diverse research topics, including Islamic studies, business and management, social sciences and humanities, law and international relations, language/communication and education, science and technology, clinical and health sciences, and pharmacy and pharmaceutical sciences.

I extend my heartfelt thanks to all the participants for joining this conference and contributing to its success. I would like to convey my deepest gratitude to the programme committees for their commitment and diligence in making the IPRC a prestigious and successful event. Special thanks are also given to the various organisations and individuals for their passionate support and sponsorships. It is my greatest hope that IPRC will strive forward in future years.

I wish you a pleasant and fruitful conference. Thank you.

WELCOME MESSAGE

Professor Dr. Zuhairah Ariff binti Abd Ghadas
Deputy Vice Chancellor
(Academic and International)
Universiti Sultan Zainal Abidin

Assalamualaikum w.b.t,

Dear Colleagues,

It is with great pleasure that I welcome all delegates to the 4th International Postgraduate Research Conference 2024 (4th IPRC 2024), organized by the Graduate School, Universiti Sultan Zainal Abidin (UniSZA), Terengganu Darul Iman, Malaysia, from the 24th to 25th August 2024. This conference is jointly organized with the International Islamic University Malaysia (IIUM), Universiti Islam Sultan Sharif Ali (UNISSA) Brunei Darussalam, and Universiti Malaysia Terengganu (UMT). On behalf of the organising committee, I would like to express our utmost appreciation to IIUM, UNISSA, and UMT for their collaboration.

This conference is a sub-conference held under the UniSZA International Multidisciplinary Conference 2024 (UIMC 2024). It serves as a pivotal meeting point for researchers and postgraduate students to discuss current findings and pave the way for future research. I am delighted to see the participation of many researchers from Malaysia and other countries. I strongly believe that the 4th IPRC 2024 will be an excellent platform for researchers, particularly postgraduate students, to share their exciting and innovative research findings. Last but not least, my heartiest congratulations to the organising committee for their outstanding efforts in bringing this conference to fruition.

We look forward to meeting you all at the 4th IPRC 2024.

WELCOME MESSAGES

Assalamualaikum w.b.t,

Assoc. Prof. Ts. Dr. Khamsah Suryati binti Mohd
Chairman, 4th IPRC 2024

Dear Colleagues,

On behalf of the Graduate School of UniSZA and the committee members, I am pleased and privileged to welcome distinguished participants to the 4th International Postgraduate Research Conference 2024 (4th IPRC 2024). The Graduate School is delighted to be associated with all faculties in organising this conference to foster the linkages between the industry, educators and research community.

4th IPRC 2024 provides an ideal academic platform for researchers to present the latest research findings and describe emerging agricultural innovations to nourish the world. The conference seeks to contribute to presenting novel research results in Islamic studies, business and management, social sciences and humanities, law and international relations, language/communication and education, science and technology, clinical and health sciences, and pharmacy and pharmaceutical sciences. The conference aims to bring together leading academicians, researchers and postgraduates from Malaysia and worldwide to present their research results and development activities in various research fields. It also provides a platform for participants to embrace their talent and potential to deliver their research outcomes and share the information, experience and current research progress to the public.

We continue the tradition of bringing together researchers from various parts of the country and the region. We received almost 80 participant from multiple institutions across Malaysia, Brunei Darussalam, Indonesia and India. Many of the articles at this conference evaluate recent and future advances in various disciplines and value the applicability of research to the industry, policymakers, educators, and the wider community. I hope you will find this two-day occasion a stimulating, interactive and enjoyable experience. Last but not least, I would like to extend my sincere gratitude to UniSZA for its excellent institutional support. I would also like to convey my appreciation to the invited keynote and plenary speakers and delegates for your participation and dedication, institutional sponsors for your support, and organizing committee members for your commitment. I hope this type of collaboration of mutual interest will continue.

We look forward to meeting you all at the 4th IPRC 2024.

ORGANISING COMMITTEE

PATRON

Prof. Dato' Dr. Fadzli bin Adam

Vice Chancellor

ADVISOR

Prof. Dr. Zuhairah Ariff binti Abd Ghadas

Deputy Vice Chancellor (Academic & International)

CHAIRMAN

Assoc. Prof. Ts. Dr. Khamsah Suryati binti Mohd

Dean of Graduate School (PPS)

DIRECTOR

Assoc. Prof. Dr. Wan Amalina binti Wan Abdullah @ Wan Muda

Deputy Dean of Graduate School (Academic)

DEPUTY DIRECTOR

Assoc. Prof. Dr. Najihah binti Abd Wahid

Deputy Dean of Graduate School (Student Affairs & Administration)

SECRETARY

Puan Siti Maliani binti Abdullah

Puan Siti Hazana Azura binti Kamaruddin

TREASURER

Puan Azlina binti Daud @ Abdul Razak

Sponsorship Committee

Assoc. Prof. Dr. Connie Fay Komilus (Head)

Puan Nurul Aziera binti Ahadar

Puan Normala binti Yusoff

Promotion & Publicity Committee

Assoc. Prof. Dr. Najihah binti Abd Wahid (Head)

Encik Mohd Usairi bin Mohamed Zainuddin

Encik Muhammad Izzat bin Ahmad Zaki

Event Management Committee

Dr. Muhammad Yusran bin Abdul Aziz (Head)

Puan Siti Maliani binti Abdullah

Puan Roshazilah binti Ruslee

Puan Nor Shahirah binti Mansor

Puan Fairuz binti Zakaria

Puan Nor Farah Fadillah binti Nor Azmi

Cik Siti Maisarah binti Mohd Noor

Puan Noor Mizan binti Arifin

Alia Izzati binti Azam

Ahmad Khalish bin Yahya

Logistic & Accommodation Committee

Dr. Ahmad Syibli bin Othman (Head)

Encik Zunaidin bin Muda

Encik Wan Mohd Hamidi bin Wan Harun

Cik Norshuhada binti Abd Aziz

Encik Tengku Muhammad Fadhlullah bin Tengku Mahmood

Encik Mohd Nasarudin bin Salleh

Puan Nur Hasnida Amrina Rasyada binti Hasmadi

Encik Saiful Bahri bin Mohd Diah

Encik Muhammad Haziq bin Omar

Food & Beverages Committee

Puan Wan Nor Akmal binti Wan Salleh (Head)

Puan Rosnani binti Abdul Ghan

Puan Nora Asiah binti Mamat

Cik Murni Asyiqin binti Md Azman

Website & Registration Committee

Encik Nasrul Ezharuddin bin Che Amat (Head) - Website

Encik Nik Farid bin Nik Mohd

Encik Mohd Faizal bin Omar

Encik Wan Amirizal bin Wan Sulong

ChM. Dr. Zalilawati binti Mat Rashid (Head) - Registration

Dr. Asmad binti Kari

Cik Nor Suhaida Amira binti Mohamad

Puan Wan Fazila binti Wan Omar@Wan Johor

Technical Commitee

Encik Mohd Nasarudin bin Salleh (Head)

Encik Mohammad Amirul Izzuddin bin Azmi

Proceeding Commitee

Dr. Che Ku Dahlan bin Che Ku Daud (Head)

Assoc. Prof. Dr. Azyyati binti Mohd Suhaimi

Dr. Nornasuha binti Yusoff

Dr. Nazmi bin Harith Fadzilah

Dr. Isyaku Hassan

Dr. Norhazilah binti Muhamad

Dr. Mohd Nur Nasyriq bin Anuar

Cik Habibah binti Kamaruzaman

Scientific/ E- Conference Committee

Dr. Fairuz binti Mohd Nasir (Head)

Assoc. Prof. Ts. Dr. Khamsah Suryati binti Mohd

Dr. Nurul Jannah binti Mohd Juaini

Dr. Mohd Aiman bin Hamdan

Dr. Nor Atiqah binti Jusril

Dr. Nurul Afiedia binti Roslim

Dr. Ninie Nadia binti Zulkipli

Dr. Norhidayah binti Badya

ChM. Dr. Norsyafikah Asyilla binti Nordin

Dr. Tarek Mohamed Ali Elsayed

Dr. Umar Idris Ibrahim

Dr. Rosmaria binti Jaffar@Harun

Puan Nurul Huda binti Mustafa

Cik Intan Anis binti Mohd Saupi

Safety Commitee

Rohaizi bin Ishak (Head)

BACKGROUND

Graduate School of UniSZA is hosting the 4th International Postgraduate Research Conference (4th IPRC 2024) to promote the research and education in multiple fields of Islamic studies, social sciences and humanities, law and international relations, language/communication and education, business and management, sciences and technology, health, medicine and pharmaceutical sciences related fields. The aim is to provide a platform for academicians, researchers and postgraduates from Malaysia and all over the world to present their research results and development activities in various research fields.

The objective of this conference is to provide a platform for participants to embrace their talent and potential to deliver their research outcomes. The participants are also able to share information, experience and current research progress to the public.

Topics/Subthemes/Tracks:

- Islamic Studies
- Social Sciences & Humanities
- Law & International Relations
- Languages / Communications & Education
- Business and Management
- Science & Technology
- Clinical & Health Sciences
- Pharmacy & Pharmaceutical Sciences

EVENT SCHEDULE

OPENING CEREMONY, 24th August 2024 (Saturday) Dewan Al-Muktafi Billah Shah (DABS)	
TIME	**EVENT**
8:00 am	Arrival of participants
	Opening ceremony
10:30 am	End session – move to Dewan Kuliah Utama (DKU)

4th IPRC 2024 Session 1 Dewan Kuliah Utama (DKU)	
TIME	**EVENT**
10:30 am	Registration of participants
10:35 am	**Keynote 1:** **Mr. Novie Tajuddin** Chief Executive Officer Education Malaysia Global Services (EMGS) ***Title*: *Malaysian Education in The Eye of The World***
11:00 am	**Keynote 2:** **TPr Herlina Ab Aziz** Director Malaysian Association of Social Impact Assessment ***Title: Fostering Equitable Development, Empowering Communities & Environmental Sustainability***

11:20 am	**Plenary 1:** **Prof. Dr. S. Gayathri Devi** Head Department of Biochemistry, Biotechnology and Bioinformatics Avinashilingam Institute for Home Science and Higher Education for Women ***Title: Pioneering Nanotechnology and Natural Innovations in Healthcare, Environmental Sustainability and Agriculture***
11:40 am	**Plenary 2:** **H. Moch. Imam Machfudi** Lecturer UIN Kiai Haji Achmad Siddiq Jember, Indonesia ***Title: Educational Policy and Teacher Professional Development: Voices From Indonesian Rural Madrasahs***
12:00 pm	**Plenary 3:** **Prof. Dr. Ts. Amiza binti Mat Amin** Director, Postgraduate Management Centre Universiti Malaysia Terengganu ***Title: Enhancing Functional Properties of Edible Bird's Nest***
12:20 pm	**Plenary 4:** **Assoc. Prof. Dr. Suyatno Ladiqi** Lecturer Faculty of Law and International Relations, Universiti Sultan Zainal Abidin ***Title: Globalization Meets Ai: Transforming The Educational Landscape For University Students***
12:40 pm	Lunch

Day 1: 24th August 2024 (Saturday)
Physical Session 1
Venue: Dewan Kuliah Utama (DKU)

Time	Code	Presenter Name	Title
2:00 pm	ST_1_GAYAT	Dr. P. Gayathri	Inhibitory kinetics of Carbohydrate Hydrolyzing Enzymes and Influence on glucose uptake in Rat Hemi-diaphragm by *Polyalthia longifolia* bark Ethanolic Extract and its purified fractions
2:15 pm	ST_2_VELVI	Dr Velvizhi Selvaraj	Biochemical Changes of Polycystic Ovarian Syndrome (PCOS) in Selected Women and its Management with *Glycyrrhiza glabra* Root Extract using Wistar Rat Model
2:30 pm	ST_3_VASUN	Dr.C.C.S.Vasundhara	A Study on Non-invasive Self Diagnostic Health Monitoring Device
2:45 pm	ST_4_MOUSS	Moussa Barry	What drives University students' intention to use mobile commerce: A structural equation modelling approach
3:00 pm	ST_5_HAFIZ	Hafizu Ibrahim Hassan	Normalisation of Upper Trapezius SEMG Signal Upon Stress Induction
3:15 pm	ST_6_LSYSF	Syaharil Saidin	The Effect of Electronic Contributors Towards Functionality of Aptes-Imine Derivatives As Potential Bridge Material In Catalytic Activity
3:30 pm	ST_7_HBNWY	Mohd Nor Imran Mohd Azman	Effect of Different Avian Egg Yolks Semen Extenders on The Quality of Chilled-Preserved Sperm in Barbados Blackbelly Sheep
3:45 pm	PPS_1_FGLCJ	Nik Liana A Samat	How Do Healthcare Professionals Perceive the Utilization of Complementary and Alternative Therapies (CATs) For Epilepsy
4:00 pm	**END OF PHYSICAL SESSION 1**		

Day 1: 24th August 2024 (Saturday)
Physical Session 2
Venue: PPS Meeting Room

Time	Code	Presenter Name	Title
2:00 pm	IS_1_LVQWH	Sharifah Huseinah Madihid	Reeling It In! Indonesian And Malaysian Ba'alawi Asatizah Prevention of Salafi and Shi'ite Conversions Through Boundary- Making Strategies
2:15 pm	SSH_1_PSTHN	Dr. Rosliza Yahaya	Art Therapy in Adolescents: A Mini-Review
2:30 pm	SSH_2_NYEZD	Nurul Nabila Tarmizi	Examining The Influence Of Perceived Stress, Anxiety And Depressive Symptoms On Quality Of Life: Insights From Low-Income Malaysians With A Focus On Coping Strategies
2:45 pm	SSH_3_HVUQP	Waseem Raja	Divergent Paths, Shared Goals: A Psychosocial Comparative Analysis of Women's Entrepreneurship Influence on Economic Development in Malaysia and Pakistan
3:00 pm	SSH_4_TLLAM	Ruhiyah Sakinah Kayati	Seafarers Work Stress Scale: Development and Validation
3:15 pm	LCE_1_NNHRG	Said Mohammed AlMashrafi	Effect of collaborative work on improving the learners' reading skill
3:30 pm	ST_8_UDTNJ	Muhammad Amir Fikri MD Fauzi	Determination Of Antioxidant, Nitric Oxide Scavenging Activity, Total Phenolic and Flavonoid Content from Propolis Of Geniotrigona Thoracica
3:45 pm	ST_9_UAKWN	Sharifah Nur Hidayah Sayed Abdul Rahman	Partitioning Characteristics and Bioaccessibility Of Tocotrienol In Oil-In-Water (O/W) Emulsions With Different Surfactants
4:00 pm	ST_19_TJWSC	Nik Danial Asyraf Nik Mustaffa	Prevalence And Molecular Detection of *Corynebacterium pseudotuberculosis n* Small Ruminants with Clinical Caseous Lymphadenitis In UniSZA Pasir Akar Farms
4:15 pm	SSH_8_ADHA	Haekal Adha Al-Giffari	Convergence or Collision: Reevaluating Huntington's Clash of Civilizations in a Globalized World
4:30 pm	**END OF PHYSICAL SESSION 2**		

Day 1: 24th August 2024 (Saturday)
Poster Evaluation Session (Physical)
Venue: Dewan Kuliah Utama (DKU)

Time	Code	Presenter Name	Title
2:00 pm	CHS_PP_ZSUUZ	Dr. Nurulumi Ahmad	Comparative Analysis of Mental Status Among Social Science Students and Technical Students in Terengganu: A Cross- Sectional Study
2:15 pm	PPS_PP_FGLCJ	Nik Liana A Samat	Complementary And Alternative Medicine (CAM) Usage Among Epilepsy Patients: A Narrative Review
2:30 pm	ST_PP_GUKUW	Siti Khadijah Roslan	Investigating the Antibacterial Potential of Isomeric Substituted dithiocarbazate from S-benzyldithiocarbazate: Experimental and Computational Insights
2:45 pm	ST_PP_QISTI	Nur Qistina Amalia binti Aminnudin	A Comparative Analysis of The Emission of Indoor Radon Level (Alpha Radiation) From Construction Materials at A Brick Factory and A Quarry in Kuantan, Pahang
3:00 pm	**END OF POSTER EVALUATION SESSION**		

Day 1: 24th August 2024 (Saturday)

Webinar Event 1 & Online Parallel Session 1

Venue: PPS Viva Room 1 (Online)

Time	Webinar Event 1 (Link: https://tinyurl.com/3536jvd3)
2:00 pm	**Plenary 5:** Assoc. Prof. Dr. Hasan Hih Dean Training and Development Institute, Al Istiqlal University, Palestine ***Title:*** ***The Importance of Psychological and Educational Counseling in Palestine before The Seventh of October and Beyond***

Online Parallel Session 1 (Link: https://tinyurl.com/32d92vmu)			
Time	**Code**	**Presenter Name**	**Title**
2:30 pm	IS_2_VRDMG	Muhammad Furqan Firdaus bin Hj Samsul Muawan	Perspektif Islam Sebagai Satu Panduan Kerajaan Negara Brunei Darussalam Dalam Mengutuhkan Pengendalian Warga Emas dan Fasa Penuaan Mereka
2:45 pm	IS_3_NEVSQ	Zainab Abdul Wahab	The Role of Memorization Circles at Al-Bayan Academy in Developing Innovative Thinking Among Yemeni Community Children in Malaysia
3:00 pm	IS_4_JGQPB	Ika Srikandi	The Accuracy of The Use of Moon Azimuth In Determining The Qibla Direction
3:15 pm	IS_5_JEJTA	Aliyu Kabir	The Remnant of Medieval Christian Perspectives On Prophet Muhammad: A Critical Evaluation Of Muir's Epileptic Theory
3:30 pm	SSH_5_DDDLM	Hajah Rasyidah binti Haji Osman	A Brief Study Upon the Significance Of A Dedicated Online Videography Platform For Islamic Content In Brunei Darussalam

3:45 pm	SSH_6_EVBQF	Noornajmi Idayu Mazlan	Coping Strategies in mitigating Work- Family Conflict Among Women Hoteliers: A Systematic Literature Review
4:00 pm	SSH_7_WTYEN	Nor Aishah Adnan	Promoting Sustainability Through Academic Empowerment and Examining Academic Advancement for Individuals with Hearing Disabilities In Malaysia
4:15 pm	**END OF ONLINE PARALLEL SESSION 1**		

Day 1: 24th August 2024 (Saturday)

Webinar Event 2 & Online Parallel Session 2

Venue: PPS Viva Room 2 (Online)

Time	Webinar Event 2 (Link: https://tinyurl.com/bdhavawb)
2:00 pm	**Plenary 6:** Prof. Dr. Liu Bin Professor Xinjiang Academy of Agricultural Sciences ***Title:*** **CRISPR/Cas9-mediated Genome Editing of CmNAC-NOR Block Climacteric Fruit Ripening in Melon**

Online Parallel Session 2 (Link: https://tinyurl.com/y6b9dn68)			
Time	**Code**	**Presenter Name**	**Title**
2:30 pm	ST_11_FHZBG	Muhammad Wafiuddin@Ahmad Su'ed bin Rahim	Cat Food Technology Based on Shariah Perspective To Enhance Local Industry
2:45 pm	ST_12_TXNGR	Muhammad Khairi bin Hj Muhammad Khairol Alaika	Phytochemical Screening and Bioactive Compound Analysis (Total Phenolic Content, Total Flavonoid Content and Antioxidant Activity) Of Safawy Date Palm Extracted Via Green and Conventional Extraction Technologies
3:00 pm	ST_13_UWWBB	Rukayat Omolara Folarin	Effects Of Replacing Soybean Meal with Organic Wheatgrass (*Triticum aestivum)* On Growth Performance, Carcass Yield and Meat Quality of Village Chicken (*Gallus gallus domesticus*)
3:15 pm	ST_14_QJCVQ	Tijjani Haruna Usman	Effect of Different Types of Extenders on Chilled Semen of Malaysian Indigenous Cockerels
3:30 pm	ST_15_BHVDU	Nur Syuhada Ahmad Nordin	Optimizing Gender Selection in Livestock: Evaluating Sperm Sexing Techniques Using Egg White Sedimentation (EWS)

3:45 pm	ST_16_JQJES	Sikiru Yesirat Adebukola	Investigating Fat Content in Goat Milk at The Three Lactating Stage
4:00 pm	ST_17_SQGDT	Nik Nurnaeimah binti Nik Muhammad Nasir	Comparison of Disease Incidence of Melon Manis Terengganu During Monsoon, Drier, and Transition Seasons
4:15 pm	ST_18_GEZKT	Nora Atiyah binti Mohd Razali	Antioxidant,nitric oxide radical scavenging assay, antibacterial and chemical properties of *Blumea balsamifera*
4:30 pm	ST_10_DBJJR	Riri Ezraneti	Microplastic contamination of commercial fish on the east coast of Peninsular Malaysia
4:45 pm	**END OF ONLINE PARALLEL SESSION 2**		

Day 2: 25th August 2024 (Sunday)

Webinar Event 3
Venue: PPS Meeting Room (Online)

Time	Webinar Event 3 (Link: https://tinyurl.com/yckcfpzu)
9:00 am	**Keynote 3:** **Prof. Dr. Gregory Mark Peterson** Distinguished Professor of Pharmacy and Chair, Human Research Ethics Committee, University of Tasmania ***Title: Drug-Related Hospital Admissions in Australia***
9:30 am	**Keynote 4:** **Dr. Tillaeva Umida** Vice-Rector of International Cooperation Tashkent Pharmaceutical Institute, Uzbekistan ***Title: International Cooperation and Experience of Postgraduate Education of The Tashkent Pharmaceutical Institute***
10:00 am	**END OF SESSION**

Day 2: 25th August 2024 (Sunday)

Venue: PPS Viva Room 1 (Online)

Online Parallel Session 3 (Link: https://tinyurl.com/3wyh9em6)				
Time	**Code**	**Presenter Name**	**Mode of Presentation**	**Title**
10:00 am	PPS_3_FXWJG	Lee Le Hern	Oral	Assessment Of Knowledge, Attitude and Practice Of Unused And Expired Pharmaceutical Products Among Undergraduate Students
10:15 am	PPS_7_UTAWT	Aslinda Jamil	Oral	A Study On Knowledge, Attitude, and Practice Towards Disaster Medicine Preparedness and Readiness by Community Pharmacists in Kelantan, Malaysia
10:30 am	PPS_2_XVGXQ	Siti Irdina Saharil	e-Poster	Community Pharmacists' Knowledge about Women's Issues in Epilepsy: Addressing the Factors Influencing the Knowledge Gap For Improved Pharmaceutical Care
	PPS_4_GZCBW	Nursyamimi Izzati Suhaimi	e-Poster	Knowledge of Diabetic Kidney Disease (DKD) Among Undergraduate Medical & Pharmacy Students
	PPS_5_ASYMC	Nur Dania Najihah Mohd Hamede	e-Poster	Retrospective Analysis of Prescribing Trends and Prescribing Errors Among Medical Doctors at Hospital Sultan Zainal Abidin (HoSZA)
	PPS_6_TRQNY	Nur Syazwina Huda Rosli	e-Poster	Development and Validation of Rheumatoid Arthritis (RA) Pamphlet
	PPS_8_NPVRF	Wan Muhammad Syafiq bin W Mohd Nazar Noor	e-Poster	Knowledge, Attitude and Perception Towards Epilepsy Among Unisza Staff: A Cross-Sectional Study
	CHS_6_JFFSX	Mazira Mohamad Ghazali	e-Poster	Examining The Link Between Pain Perception and Cognitive Performance In Primary Knee Osteoarthritis
	CHS_8_MZJLS	Faheem Mustafa	e-Poster	Association of BDNF (rs6265) with Obesity In Adult Pakistani Population and Its Molecular Docking With Tropomyosin Receptor Kinase B (TrkB)
11:45 am	**END OF ONLINE PARALLEL SESSION 3**			

Day 2: 25th August 2024 (Sunday)

Venue: PPS Viva Room 2 (Online)

Online Parallel Session 4 (Link: https://tinyurl.com/2uj98d3f)			
Time	**Code**	**Presenter Name**	**Title**
10:00 am	CHS_1_SARAS	S. Saraswathi	Assessing the synergistic potential of *Boerhavia diffusa* and *Orthosiphon aristatus* in combating chronic kidney disease using *Insilico* methods
10:15 am	CHS_2_NADBA	Nor Aizura Zulkifli	Survival Probabilities of Children with Retinoblastoma in Malaysia: A Retrospective Cohort Study
10:30 am	CHS_3_SBMPQ	Nur Anis Ashiela Mohd Amiludin	Gene Expression Analysis of JAK/ STAT and PI3K/AKT Pathways in Chronic Myeloid Leukemia Mice Treated With Thymoquinone
10:45 am	CHS_4_QSUED	Nur Asyiera Amiruddin	Antioxidative Properties of Methanolic and Aqueous Extracts of *Mitragyna speciosa* Leaves: A Comparative Analysis
11:00 am	CHS_5_DWXZH	Ahmad Khalis Yahya	Molecular Docking Analysis of Bioactive Compounds from *Melaleuca cajuputi* subspecies *cumingiana* Essential Oils as Dengue Virus Serotype 2 NS1 Protein Inhibitors
11:15 am	CHS_7_QUCWT	Nur Ellyanis Ab Rasid	Body Mass Index and Its Association with BI- RADS Density Distribution and Potential Breast Cancer Risk in Women from Terengganu and Kelantan
11:30 am	**END OF ONLINE PARALLEL SESSION 4**		

Day 2: 25th August 2024 (Sunday)

Venue: PPS Discussion Room (Online)

Online Parallel Session 5 (Link: https://tinyurl.com/2ufpu6m3)			
Time	**Code**	**Presenter Name**	**Title**
10:00 am	LCE_2_ANXWJ	Abdulaziz Mohamed Ahmed Ateik	Semantic Analysis of the Translated Financial Verses in Surat Al-Baqarah based on the interpretations of Khan and Al-Hilali, and Sahih International
10:15 am	LCE_3_UYPGH	Abeer Ahmed	التوحد طيف اضطراب طفال العربية اللغة عليم وحلول تحديات :العربية بغير الناطقين
10:30 am	LIR_1_MARVM	Syafiq Sulaiman	Saving Lives at Sea: The United Nations Convention on The Law of The Sea 1982
10:45 am	BM_1_AZPWV	Rabiu Abdullahi	Detecting Accounting Fraud: A Review of Divulging Models for Future Research
11:00 am	BM_2_ZPMNB	Nakazibwe Lydia	A Study on Occupational Health and Safety Management Practices on Employees' Productivity in Uganda's Construction Industry
11:15 am	**END OF ONLINE PARALLEL SESSION 5**		

CLOSING 25th August 2024 (Sunday) Online (Link: https://tinyurl.com/3sh9xpmk)	
TIME	**EVENT**
12:00 pm	Presentation of Awards • Best Oral Presentation Award • Best Poster Presentation Award
12:05 pm	Closing Remarks by Assoc. Prof. Ts. Dr. Khamsah Suryati,binti Mohd, Chairman of the Organizing Committee, 4th IPRC 2024
12:10 pm	End Session

KEYNOTE SPEAKERS

KEYNOTE

Novie Tajuddin

CA (M), FCMA (UK), CGMA
Chief Executive Officer
Education Malaysia Global Services

Novie Tajuddin is the Chief Executive Officer (CEO) for Education Malaysia Global Services (EMGS), an agency under the purview of the Ministry of Higher Education Malaysia (MoHE), which is responsible for internationalisation and promotion of Malaysia education to international students, including facilitating visa processing.

Novie previously was the CEO of The Malaysian Institute of Certified Public Accountants (MICPA) and brought with him a wealth of experience in the education industry and commercial. Before MICPA, Novie served as the Chief Operating Officer (COO) of EMGS and as a Director, Strategy & Engagement for Yayasan Peneraju, an agency under the Prime Minister's office. Novie has been appointed as the Education Committee Member of MARA since 2020. He was conferred as Adjunct Professor by UNITAR International University in January 2022 and appointed as the Ambassador for Faculty of Accountancy, UiTM recently.

On the commercial side, he used to be the Regional Chief Financial Officer (CFO) of Getronics Asia Pacific & Japan (Dutch Company) which oversaw operations globally including SEAs, India, Taiwan, Korea, and Japan. He held key positions in various entities such as Abeam Consulting (Japanese Company), The IA Group, MIMOS Berhad and the Board of Director of Technology Park Malaysia (TPM) (2017-2020). He holds a Bachelor in Accounting and Finance (Hons) from De Montfort University, Leicester, UK and a Diploma in Accountancy (UiTM). He is a member of Malaysian Institute of Accountants (MIA) and Fellow member of Chartered Institute of Management Accountants (CIMA).

With over 26 years of experience in General Management, Accounting & Finance, Operations, Business Development, Strategic Planning & Strategic Engagement and also in IT, Consulting & Outsourcing industry, Novie is well-versed in the area of Planning, Strategy, Engagement, Business Process, Financial Planning & Analysis, Accounting, HR & Payroll outsourcing. Novie brings unique composition of experience in multi-nationals and local conglomerates.

KEYNOTE

Distinguished Professor Gregory Mark Peterson

BPharm (Hons), PhD, MBA, FSHP, FACP, GAICD, AACPA, FPS

Gregory Mark Peterson, Distinguished Professor of Pharmacy and Chair, Human Research Ethics Committee, University of Tasmania; Visiting Professor at Universiti Sultan Zainal Abidin (UniSZA), Campus Besut, Terengganu Darul Iman, Malaysia.

G.Peterson@utas.edu.au

Drug-Related Hospital Admissions in Australia

This presentation will cover several recent studies that have investigated the prevalence, clinical features, causality, severity, outcomes, and risk factors of drug-related hospital admissions (and readmissions) in Tasmania, Australia. The studies have examined specific patient groups, including the elderly and those with dementia, as well as the general adult population. Varying methods have included examination of large administrative datasets and the use of panels to assess potential adverse drug events. These studies have consistently shown that medicines are associated with up to 20% of all medical admissions, especially in the elderly and those with dementia or cognitive impairment. Furthermore, patients admitted to hospital with an adverse drug reaction are at increased risk of a subsequent drug-related readmission, with the risk persisting for up to five years. Most drug-related hospital admissions were considered preventable, highlighting the need for more effective targeted and tailored interventions.

KEYNOTE

Associate Professor
Dr. Tillaeva Umida

Vice-Rector of International Relations, Tashkent Pharmaceutical Institute, Tashkent, Uzbekistan.

Umida.tillaeva@gmail.com
+99890-315-00-00

International Cooperation and Experience of Postgraduate Education at the Tashkent Pharmaceutical Institute

The report is devoted to the issues of training scientific and scientific-pedagogical personnel of the highest qualification in the pharmaceutical industry thanks to the development of international cooperation of the Tashkent Pharmaceutical Institute.

PLENARY SPEAKERS

PLENARY 1

Professor
Dr. S. Gayathri Devi

Professor and Head

Department of Biochemistry, Biotechnology and Bioinformatics
Avinashilingam Institute for Home Science and Higher Education for Women

gayathridevi_bc@avinuty.ac.in

Pioneering Nanotechnology and Natural Innovations in Healthcare, Environmental Sustainability and Agriculture

The "Empowering Collaborative Research Through Nurturing Innovation" conference underscores the vital role of interdisciplinary research in addressing global challenges. A prime example is the development of quantum dots-infused smart sensor dressings represent a cutting-edge advancement in diabetic wound management, enabling real-time monitoring and precise treatment by providing continuous feedback on wound conditions and facilitating timely interventions. Complementary to this is the green synthesis of iron oxide nanoparticles from *Hydrocotyle verticillata*, offering a sustainable and effective antimicrobial solution that has led to the creation of a lotion with superior efficacy compared to commercial products. Additionally, the use of carbon nanoparticles derived from *Curcuma longa* demonstrates significant potential in combating microbial infections which is shown as a result of disrupting bacterial biofilm formation, which is crucial for preventing chronic infections. Innovative approaches to environmental sustainability are also highlighted, such as the enzymatic degradation of microplastics by fungal species, providing a promising solution to plastic pollution. In the domain of functional foods and cosmetics, the encapsulation of luteolin in chitosan nanoparticles not only offers therapeutic benefits for diabetes management but also introduces new opportunities for health-oriented products, such as therapeutic tea bags. The result has shown that the formulation using luteolin and chitosan nanoparticles has enhanced the bioavailability and stability of bioactive compounds. The formulation of herbal lipsticks using fruit pigments has provided a natural and safe alternative to synthetic dyes, appealing to consumers seeking eco-conscious cosmetics. In the field of reducing soil pollution and improving soil fertility the creation of Biodegradable films as soil amendments offers sustainable advancements in nutrient management in agriculture by reducing soil erosion and nutrient runoff. The outcome of the research shows these films improve soil structure and fertility, leading to enhanced crop yields. Finally, the encapsulation of peanut shell extract in gel-based sprays exemplifies the potential of natural compounds in medical applications, particularly for enhancing diabetic wound healing and indicates accelerated healing rates and reduced inflammation. Collectively, these research initiatives underscore the importance of collaborative innovation in advancing scientific knowledge and developing sustainable solutions across diverse fields.

PLENARY 2

H. Moch. Imam Machfudi

Universitas Islam Negeri Kiai Haji Achmad Siddiq Jember,
68136 Jawa Timur, Indonesia

imammachfudi@uinkhas.ac.id

Educational Policy and Teacher Professional Development: Voices from Indonesian Rural *Madrasah*

In the recent years, the Government of Indonesia (GoI) through ministry of education has introduced new educational policy aimed at transforming the national education system. This policy focuses on improving the quality of education, promoting inclusivity, technological integration, curriculum reform, innovation, and governance. The policy is designed to equip students with the skills and knowledge necessary to succeed in the 21st century. While policy aims to create an education system that is equitable, effective, and future-ready, the rural madrasah education, in particular, need to address the unique challenges faced by the students and teachers in rural area of Indonesian. This study aims at elucidating the impacts of new government policy and to what extend this policy accepted and enacted by the madrasahs in rural Indonesia.

PLENARY 3

Professor
Dr. Amiza Mat Amin[1,2]

[1]Faculty of Fisheries and Food Science, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia.
[2]Functional Food RIG, Food Security in a Changing Climate SIG, Food Security Research Cluster, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia.

ama@umt.edu.my

Enhancing Functional Properties of Edible Bird's Nest

Edible birds's nest (EBN) is made from solidified saliva of male swiftlets (*Aerodramus fuciphagus* and *Aerodramus maximus*). It is a highly prized traditional Chinese delicacy. Glycoprotein is the main component in EBN. The main issue with EBN application in food and health products is its insolubility. Thus, enzymatic protein hydrolysis could be used to improve the solubility, digestibility, functionality and bioactivity of EBN. The effect of heat treatment and enzymatic hydrolysis on the physicochemical properties and degree of hydrolysis of EBN is discussed. Besides, the effect of enzymatic hydrolysis on bioactivity of EBN is presented as well. Furthermore, the identification of bioactive peptides from EBN using *in-silico* and *in-vitro* approaches are discussed as well.

PLENARY 4

Associate Professor
Dr. Suyatno Ladiqi

Faculty of Law & International Relations, Universiti Sultan Zainal Abidin, Malaysia

yatnoladiqi@unisza.edu.my

Globalization Meets AI: Transforming the Educational Landscape for University Students

In an increasingly interconnected world, the convergence of globalization and artificial intelligence (AI) is revolutionizing the educational landscape for university students. This paper begins with an introduction to understanding globalization concepts and the changing nature of education in a globalized context, highlighting how technological advancements and international collaboration have redefined learning opportunities. The main research focuses on the dual impact of globalization and AI on higher education, including the diversification of curricula, the emergence of online learning platforms, and the integration of AI tools that personalize and enhance education. Our findings reveal that globalization fosters diverse educational environments, encouraging cross-cultural exchanges and partnerships. At the same time, AI technologies enhance pedagogical approaches through adaptive learning systems, predictive analytics, and improved student support services. However, the study also addresses challenges such as the digital divide, ethical implications of AI usage, and the potential for increased disparities in access to quality education. In conclusion, this paper underscores the imperative for educational institutions to embrace these changes proactively, ensuring that they adapt their strategies to foster inclusivity and equity in learning. As globalization and AI continue to shape the educational landscape, universities must prepare students to navigate and excel in an increasingly complex, interconnected world, equipping them with the necessary skills to become informed global citizens and future leaders. The transformative potential of this intersection provides a unique opportunity to redesign educational paradigms and empower the next generation of learners.

Keywords: globalization, Artificial Intelligence, education, university

PLENARY 5

Associate Professor Dr. Hasan Hih

Dean
Training and Development Institute, Al-Istiqlal University, Palestine

Hassan al-Hayeh[1], Najihah Abd Wahid[2]

[1]Faculty of Humanities, Al-Istiqlal University, Palestine
[2]Faculty of Islamic Contemporary Studies, UniSZA, Malaysia

hasanhih@pass.ps anajihah@unisza.edu.my

Psychological and Educational Counseling after October 7th in Palestine: Significance and Necessity

The tragedies after October 7th in Palestine have led to an unprecedented rise in psychological distress, particularly among vulnerable groups such as children and adolescents. This study explores the critical significance and necessity of psychological and educational counselling in mitigating the profound mental health impact of prolonged exposure to conflict-related trauma. The research employs a mixed-methods design, integrating quantitative data derived from structured surveys administered to a representative sample of the affected population, alongside qualitative insights obtained through in-depth interviews with mental health practitioners and educators. The quantitative findings indicate a significant prevalence of psychological disorders, including post-traumatic stress disorder (PTSD), anxiety, and depression, among the surveyed individuals. Qualitative data further illuminate the barriers to accessing effective mental health care, such as cultural stigmas, inadequate infrastructure, and the scarcity of trained professionals. The analysis reveals that current counselling services are insufficient to meet the escalating demands, necessitating an urgent expansion of both psychological and educational interventions. The study concludes by advocating for the integration of psychological counselling into the educational framework as a strategic intervention to enhance resilience and mental well-being among the youth. The findings underscore the need for international collaboration to bolster the mental health infrastructure in Palestine, positing that such measures are integral not only for individual recovery but also for fostering long-term social stability and peacebuilding in the region.

PLENARY 6

Professor
Dr. Liu Bin

Profesor Xinjiang Academy of Agricultural Sciences

liu.bin@xaas.ac.cn

CRISPR/Cas9-Mediated Genome Editing of Cmnac-NOR Block Climacteric Fruit Ripening in Melon"

Fruit ripening is divided into climacteric and non-climacteric types depending on the presence or absence of a transient rise in respiration rate and the production of autocatalytic ethylene. Melon is ideal for the study of fruit ripening, as both climacteric and non-climacteric varieties exist. Recent study in our group showed that an introgression of the non-climacteric accession PI 161375, encompassed in the QTL ETHQV6.3, into another non-climacteric Piel de Sapo' background are able to induce climacteric ripening. With map based cloning, we found that the gene underlying ETHQV6.3 is MELO3C016540 (CmNAC-NOR), encoding a NAC transcription factor that is closely related to the tomato NOR (non-ripening) gene. CmNAC-NOR was functionally validated through the identification of two CRISPR/Cas9-mediated genome editing mutants in a climacteric background melon Védrantais: nor-1 and nor-3. Homozygous nor-1 is a complete knock-out mutant without climacteric ripening, no ethylene production, no abscission layer, and no external color change; and nor-3 is a knock-down mutant with ~8 days delay in ripening, but the fruit quality was not affected. In addition, the heterozygous nor-1 line also showed ~30 days delays in fruit ripening. Based on the DAP-seq analysis, we found and verified that CmNAC-NOR directly targeted to the promoter of ethylene biosynthesis gene. Our work identified, characterized and functionally validated CmNAC-NOR as a master regulator of fruit ripening. This study also suggests that nor-1 could serve as a potential material with practical potential for creating long shelf life fruit in melon breeding programs.

ABSTRACT
(Islamic Studies)

IS_1_LVQWH

Reeling It In! Indonesian and Malaysian Ba'alawi Asatizah Prevention of Salafi and Shi'ite Conversions Through Boundary-making Strategies

Sharifah Huseinah Madihid[1,*], Rosila Bee Mohd Hussain[1]

[1] University of Malaya, Department of Anthropology & Sociology, Malaysia

*Author for Correspondence: *s2116112@siswa.um.edu.my*; *rosila_bee@um.edu.my*

Abstract

The Ba'alawi from the Southern Yemen region of the Hadramaut valley have been credited for propagating and disseminating Islam in Indonesia and Malaysia upon their arrival in the pre-colonial and colonial period. The Ba'alawi has successfully promulgated the Shafi'i school of jurisprudence and Ash'ari creed amongst the people of the Nusantara rendering Shafi'i-Ash'arism the de facto brand of Islam practiced in the region. However, Islamic revivalism in the 1970s and 1980s have led to the rise in popularity of alternative forms of Islam specifically Salafism and Shi'ism, till today. As a result, many from the Nusantara including some Ba'alawi members have converted to these forms of Islam and proselytize them to others. By conducting in-depth interviews with 44 members of the Ba'alawi from the Nusantara including its religious scholars (asatizah), this paper argues that Indonesian and Malaysia Ba'alawi asatizah have produced effective boundary-making strategies to prevent the proselytization activities of Shi'ite and Salafi Ba'alawi individuals thereby thwarting further conversions. This paper presents two case studies of boundary-making; one from Indonesia and another from Malaysia. It argues how various Indonesian asatizah have successfully delineated and circumscribed the *Majelis Ta'lim* spaces in Jakarta to prevent a famed ustazah from propagating Shi'ism. On the other hand, in Malaysia, the asatizah have effectively used pejorative narratives to thwart a popular ustaz from propagating Salafism to the masses. As such, this paper aims to illustrate how religious scholars are actively creating bordering-making strategies in order to ensure their dominance in the Islamic marketplace whilst blocking other forms of Islam from being propagated.

Keywords: Salafism, Shi'ism, Conversions, Nusantara, the Ba'alawi

IS_2_VRDMG

Perspektif Islam Sebagai Satu Panduan Kerajaan Negara Brunei Darussalam dalam Mengutuhkan Pengendalian Warga Emas dan Fasa Penuaan Mereka

Muhammad Furqan Firdaus Bin Dr. Haji Samsul Muawan[1,*], Cecep Soleh Kurniawan[1,2],

[1] Pusat Penyelidikan Mazhab Syafi'i, Universiti Islam Sultan Sharif Ali, Brunei Darussalam
[2] Fakulti Syariah, Universiti Islam Sultan Sharif Ali, Brunei Darussalam

*Author for Correspondence: *Fur.3189@gmail.com*

Abstract

Fenomena populasi menua adalah fenomena yang sedang berlangsung di Negara Brunei Darussalam. Golongan yang ditakrifkan di sini adalah berusia 60 tahun dan lebih. Demi menjayakan kualiti hidup rakyat yang tinggi sekaligus mengagungkan konsep keislaman menerusi gagasan Negara Zikir dan falsafah negara Melayu Islam Beraja (M.I.B), peranan kerajaan amatlah dipentingkan menerusi pendekatan senegara *(Whole of Nation Approach)* termasuklah pengendalian warga emas Negara Brunei Darussalam. Adapun sudah tersedia di Negara Brunei Darussalam iaitu akta, strategi dan dasar berkaitan hal ehwal warga emas. Tetapi, kerangka kerja pengendalian warga emas di Negara Brunei Darussalam dan garis panduan khusus berpandukan perspektif Islam masih belum tersedia. Selain itu, seluruh daya usaha kerajaan Negara Brunei Darussalam sudah dilaksanakan dengan sebaik mungkin bagi pemeliharaan kemaslahatan warga emas. Fasa penuaan turut diketengahkan dalam Islam hinggakan kepentingan terhadap pengendalian warga emas perlu dibincangkan selalu kerana isu-isu warga emas akan berpelbagai mengikut perubahan zaman. Maka, kajian ini menghuraikan (i) Pandangan barat dan Islam terhadap penuaan warga emas dan peringkat usia mereka, (ii) Cabaran yang diharungi oleh warga emas ketika penuaan, (iii) Mekanisme daya usaha kerajaan Negara Brunei Darussalam dalam memelihara kesejahteraan warga emas dan (iv) Membangun kerangka komprehensif bagi pengendalian warga emas di Negara Brunei Darussalam berprinsipkan ajaran Islam. Kajian ini berlandaskan kepada kaedah kualitatif menerusi kaedah kepustakaan, temu ramah, observasi dan analisis dokumen. Selain itu, penganalisisan data dijalankan menerusi kaedah deskriptif dengan perisian pengaturcaraan iaitu *NVivo Version 14.* Hasil dapatan kajian mendapati bahawa peranan daripada kerajaan sangat berdampak dalam memapankan pengendalian warga emas sekaligus menyusutkan risiko penuaan di Negara Brunei Darussalam. Diharap kajian ini dapat menolong dalam memaksimumkan kesedaran di kalangan agensi-agensi berkepentingan dan komuniti serta mengutuhkan lagi kedinamikan kerajaan yang telah dijalankan dengan sebaiknya menerusi segala perencanaan yang teratur, bersistematik dan kondusif sebagaimana tadbir urus Negara Brunei Darussalam memartabatkan ajaran Islam dan seumpamanya bertunjangkan gagasan Negara Zikir.

Keywords: Perspektif Islam, Satu Panduan Kerajaan Negara Brunei Darussalam, Mengutuhkan Pengendalian Warga Emas, Fasa Penuaan

IS_3_NEVSQ

The Role of Memorization Circles at Al-bayan Academy in Developing Innovative Thinking among Yemeni Community Children in Malaysia

Zainab Abdul Wahab[1,*], Nur Sakiinah binti Ab Aziz[1]

[1] Department for Quran and As-Sunnah Studies, Faculty of Contemporary Islamic Studies, Universiti Sultan Zainal Abidin, Terengganu, Malaysia.

*Author for Correspondence: zinab2amer@gmail.com

Abstract

The Quran memorization circles are significant educational programs that contribute to the development of intellectual and innovative skills among children and youth. Al-Bayan Academy in Malaysia aims to provide an exceptional educational environment for the children of the Yemeni community in Malaysia, combining religious education with intellectual development for 150 students. This research aims to study the role of memorization circles in fostering innovative thinking among the participants by evaluating the impact of these circles on the development of innovative thinking skills in children and youth, exploring the relationship between the educational programs offered at the academy and the intellectual achievement of the participants, and providing recommendations to improve the memorization programs to enhance innovative thinking. The research is based on a case study methodology, where a group of students participating in the memorization circles at Al-Bayan Academy will be selected as a study sample. Data will be collected through questionnaires and personal interviews with students, parents, and teachers. Additionally, the results of periodic tests will be analyzed to measure the levels of innovative thinking among the students. The results are expected to reveal a positive impact of the memorization circles on the development of innovative thinking among the students. The results may indicate that combining religious education with intellectual activities can enhance innovation and creativity skills among children and youth. The findings may also provide valuable recommendations to improve the memorization programs to achieve the maximum benefit for the participants. This abstract aim to provide a comprehensive overview of the proposed research and its objectives, contributing to a deeper understanding of the role of religious education in developing intellectual and innovative skills.

***Keywords*:** Quran memorization, innovative thinking, Al-Bayan Academy.

IS_4_JGQPB

The Accuracy of the Use of Moon Azimuth in Determining the Qibla Direction

Ika Srikandi[1,*]

[1] Faculty of Contemporary Islamic Studies, Universiti Sultan Zainal Abidin, Terengganu, Malaysia.

*Author for Correspondence: *Ikasrikandi1097@gmail.com*

Abstract

In determining the direction of the Qibla the sun becomes the object most often used, in its literacy the determination of the Qibla direction is only based on the sun's azimuth. After the sun there are still objects / celestial bodies whose existence is easily observed, namely the moon. So, the authors feel the need for new methods that can be used in addition to the sun. For this reason, the author tries to examine the accuracy of the azimuth of the moon as an object of the sky that is used to determine the direction of Qibla, and to determine the level of accuracy the author uses the sun's azimuth as a comparison.This research is a numerical qualitative study using descriptive and astronomical methods to process data from the field which can be in the form of numbers, writing, or images. Primary data in this study were obtained from observations/observations and manual calculations of the azimuth of the moon and the solar azimuth using a Casio fx350ms type calculator. At the same time, the secondary data is obtained with documentation in the form of books, and supporting applications such as *Stellarium* to facilitate writers in calculating the results of calculations. In this study, two findings are obtained: the first is the moon azimuth method that can be used in determining the direction of Qibla, and the second is the level of accuracy of using the moon azimuth as a determinant of the direction of Qibla, which has the same accuracy as using the solar azimuth because there is no deviation found in the two methods.

Keyword: Azimuth, Moon, Sun, Qibla Direction

IS_5_JEJTA

The Remnant of Medieval Christian Perspectives on Prophet Muhammad: A Critical Evaluation of Muir's Epileptic Theory

Aliyu Kabir[1], Mohammed Muneer'deen Olodo Al-Shafi'i[1,*], Ahmad Bazli Bin Shafie[1]

[1]Department of Usuluddin, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Nerus, Terengganu, Malaysia

*Author for Correspondence: *mmolodo@unisza.edu.my*

Abstract

The rise and growth of Islam have been perceived as a major threat to Christianity. Because of its great growth, Christians became very discouraged. This prompted them to look for any and all means to eradicate it. During the medieval period, Islam faced many intellectual and military attacks. One of the methods used is to create false theories that portray the Prophethood of Muĺammad (p.b.u.h) negatively. The most preposterous theory was the "epileptic theory" that sought to accuse him of epilepsy. Despite numerous attempts by Muslim scholars and some less biased Christian scholars to remove this idea from the scene, it still has relevance even in the writings of some of the most learned contemporary Christian scholars. In light of the fact that William Muir is one of the most knowledgeable and Contemporary Christian scholars, this study makes an effort to analyse and evaluate his views on this theory. In order to accomplish this, analytical, comparative and evaluative approaches were used in this process. According to the findings of the investigation, Muir's claim that the Prophet (p.b.u.h) suffered from epilepsy was not grounded in reality. If it is claimed that the experiences of the Prophet (p.b.u.h) were attributed to epilepsy, it follows that the prophets of the Bible would be subject to the same accusation as well, as they shared similar physical experiences with the Prophet (p.b.u.h).

Keywords: Remnant, Medieval Christian, Prophet Muhammad, William Muir

ABSTRACT (Social Science & Humanities)

SSH_1_PSTHN

ART THERAPY IN ADOLESCENTS: A MINI-REVIEW

Rosliza Yahaya[1,3], Azizah Abdullah[2], Azizul Fadzli Jusoh[3] , Abdul Razak Abd Manaf[1,*]

[1] School of Applied Psychology, Social Work and Policy (SAPSP) Universiti Utara Malaysia, Malaysia
[2] School of Education, College of Arts & Sciences, Universiti Utara Malaysia, Malaysia
[3] Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

*Author for Correspondence: a.razak@uum.edu.my

Abstract

Background: Art therapy is increasingly recognized as a valuable method for addressing adolescent emotional challenges. Objectives: The purpose of the review is to gain insight into art therapy's effectiveness and underlying processes in helping adolescents articulate, process, and heal their emotions. Methods: The review encompasses qualitative and quantitative research in various scholarly journals from the last ten years. Results: This paper emphasizes several vital benefits of art therapy, including heightened emotional insight, decreased anxiety levels, and improved coping strategies. By engaging in activities such as drawing and painting, adolescents can express their complex and unspoken feelings. The review also considers the communal aspect of art therapy conducted in group settings, which supports social interaction and peer encouragement. Conclusions: The compiled research suggests that art therapy offers adolescents a vital avenue for emotional expression and exploration and contributes positively to their overall mental health. Implications: The conclusions drawn advocate for the incorporation of art therapy into mental health initiatives aimed at adolescents, pointing to its potential in managing a broad spectrum of emotional issues. The need for ongoing research to further refine and substantiate the effectiveness of art therapy among varied groups of adolescents is also highlighted.

Keywords: Art therapy, Group therapy, Adolescents, Emotional

SSH_2_NYEZD

EXAMINING THE INFLUENCE OF PERCEIVED STRESS, ANXIETY AND DEPRESSIVE SYMPTOMS ON QUALITY OF LIFE: INSIGHTS FROM LOW-INCOME MALAYSIANS WITH A FOCUS ON COPING STRATEGIES

Nurul Nabila Tarmizi[1*], Madihah Shukri[1]

[1]Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu

*Author for Correspondence: nabilatarmizi91@gmail.com

Abstract

This study aimed to examine the relationship between perceived stress, anxiety, and depressive symptoms and quality of life, while also investigating the mediating role of coping strategies in these relationships. Using a prospective design, this study involved 210 participants from low-income backgrounds in Malaysia. At time 1 (T1), participants completed assessments using the Perceived Stress Scale (PSS-10), Patient Health Questionnaire (PHQ-4), and Brief-COPE 28 to assess perceived stress, anxiety, depressive symptoms, and coping strategies, respectively. At the three-month follow-up (T2), participants' quality of life was assessed using the 36-Item Short Form Survey. The results revealed significant associations between perceived stress, anxiety and depressive symptoms and reduced quality of life. Perceived stress, anxiety, and depression symptoms indirectly and adversely affected quality of life through maladaptive coping. No support for direct or mediated effects of adaptive coping, contrary to expectations. In conclusion, our prospective study underscores the importance of psychological and healthcare interventions in enhancing quality of life, particularly within low-income communities.

Keywords: perceived stress, anxiety and depressive symptoms, quality of life, low-income sample, Malaysia

SSH_3_HVUQP

Divergent Paths, Shared Goals: A Psychosocial Comparative Analysis of Women's Entrepreneurship Influence on Economic Development in Malaysia and Pakistan

Waseem Raja*

University Malaysia Terengganu

*Author for Correspondence: *waseemrajaox@gmail.com*

Abstract

In Pakistan, there exists a stark underrepresentation of women in the realm of entrepreneurship. Despite the country boasting over 5 million small and medium enterprises, as reported by the State Bank of Pakistan in 2022, a mere 8% of these businesses are owned by women. This percentage places Pakistan among the countries in Asia with the lowest female ownership rates, according to a joint report by the Asian Development Bank and The Asia Foundation in 2018. Addressing this disparity in women's participation in entrepreneurship is not just a social imperative but also a crucial economic necessity. Conversely, in Malaysia, observations indicate that around 20% (130,000) of the total registered 650,000 entrepreneurs are women. However, despite the apparent success of numerous female entrepreneurs, their true potential and contribution to the country's economic growth have yet to be thoroughly addressed (Ahmad & Ali, 2024). This research identified five factors and obstacles impeding entrepreneurial growth. To address these objectives, the research employed a focus group method, conducting interviews with a selected group of five Pakistani female entrepreneurs and five Malaysian female entrepreneurs through online discussions. Additionally, data was analyzed using the NVIVO software package. The research findings were structured around five themes and subthemes. (Ahmad & Ali, 2024) In conclusion, this study has developed a socioeconomic model of women's entrepreneurship in Malaysia and Pakistan. The study offers implications for stakeholders to tackle obstacles hindering women's entrepreneurship and foster business growth among women in Pakistan, drawing insights from the socioeconomic model of women's entrepreneurship in Malaysia.

SSH_4_TLLAM

Seafarers Work Stress Scale: An Initial Development and Validation

Ruhiyah Sakinah Kayati*, Siti Nazilah Mat Ali[2], Raja Zirwatul Aida Raja Ibrahim[3]

Faculty of Business, Economy and Social Development, Universiti Malaysia Terengganu

*Author for Correspondence: ruhiyahs@gmail.com

Abstract

Background: Work stress among seafarers has become a significant concern, prompting various studies on the subject. However, seafarers work-related research used general stress scales may lead to inability to capture work stress among seafarers accurately. Therefore, this study aims to develop and validate a new scale to measure work stress among seafarers namely Seafarers Work Stress Scale (SWSS). Methods: The scale validation process involved content validity (interview and subject matter expert evaluation), construct validity (exploratory factor analysis (EFA), confirmatory factor analysis (CFA), convergent and discriminant validity and validity relations with other related variable), and internal consistency. The total sample of this study was 407 Malaysian Seafarers, with study 1 (n=100) and study 2 (n=307), selected using convenience sampling method. Data were analyzed using SPSS 23 and Smart PLS version 4 respectively. Findings: Result demonstrated sufficient content validity. For construct validity, EFA shown to tap to the dimensionality of the scale and has been confirmed by CFA. Convergent and discriminant validity were acceptable, while for the relationship between SWSS and organizational justice was presented. The evidence of Cronbach's alpha shown acceptable reliability. Conclusion: The contribution of these findings lies in enriching the theoretical understanding of work stress measurement scales and their practical applications in various domains, including maritime, psychology, and policy.

Keywords: Scale development, validation, work stress, seafarers.

A Brief Study Upon the Significance of A Dedicated Online Videography Platform for Islamic Content In Brunei Darussalam

Rasyidah Osman[1,*], Abdul Hafidz Omar[1]

[1] Faculty of Islamic Technology, Sultan Sharif Ali Islamic University (UNISSA), Brunei Darussalam

*Author for Correspondence: rasyidah.hjosman@gmail.com

Abstract

Background: The rapid growth of online videography platforms has significantly impacted global technology. Islamic Da'wah has increasingly utilized these platforms, but the vastness of the internet risks overshadowing organized Islamic content with inappropriate or non-Shari'ah compliant material. This paper investigates how dedicated Islamic videography platforms in Brunei Darussalam can minimize access to irrelevant videos and ensure algorithm control aligns with Syari'ah compliance. Methods: This study uses professional document analysis and relies on interviews with Islamic content creators and NGO members engaged in Da'wah through videography in Brunei. Additionally, surveys were distributed to Islamic University students to gather consumer perspectives upon this matter. Findings: The study reveals that many consumers of online videography platforms often encounter non-Islamic content due to algorithms promoting viral and trending videos. Consumers are unable to address this issue themselves, as the algorithms are controlled by the platform developers. Conclusion: Finally, the findings emphasize the need for a dedicated Islamic videography platform to provide quality, Syari'ah-compliant content. Developing such a platform addresses this issue and reflects one of Sayyidina Ali R.A.'s sayings: "Organized falsehood will defeat unorganized truth."

Keywords: online, videography, platform, dedicated, Islamic, content creator, Brunei Darussalam

SSH_6_EVBQF

Coping Strategies in Mitigating Work-Family Conflict Among Women Hoteliers: A Systematic Literature Review

Noornajmi Idayu Mazlan[1,*], Mohd Hairi Jalis[2], Wan-Hafiz Wan-Zainal-Shukri[3], Quah Wei Boon[4]

[1]-Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, Cawangan Terengganu, Malaysia, Human Resource Management Division, Ministry of Higher Education, 62200 W.P. Putrajaya, Malaysia
[2] Department of Gastronomy and Culinary Management, Universiti Teknologi MARA, Cawangan Terengganu, Malaysia
[3] Faculty of Fishery & Food science, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia
[4] Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia Human Resource Management Division, Ministry of Higher Education, 62200 W.P. Putrajaya, Malaysia

*Author for Correspondence: *2023447032@student.uitm.edu.my*

Abstract

For decades, studies showed that work-family conflict remains a significant issue particularly for working women in the hotel industries. It was found that many married women who work in hotels often reported suffering high levels of work-family conflict due to irregular working hours, demanding schedules, and family responsibilities. Coping techniques emerged as a critical driver on how these women handle the conflict, with time management, social support, and boundary management all playing important roles in lowering conflict levels. This issue has caused many researchers to conduct studies related to the adaptation strategies of female workers to face the problem of work family conflict and effective coping strategies used to deal with the problem. However, a limited number of researchers have tried to compile and analyze what has been found using systematic literature on the same issues. This study analyses the critical significance of coping techniques in reducing work-family conflict among married working women hoteliers through a systematic literature review (SLR) on past studies related to effective coping strategies. The process of writing this SLR has referred to the standard writing guidelines of PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis). To search for relevant articles and sources to be included in this SLR, three main databases, namely Web of Science, Scopus, and ScienceDirect, as well as one supporting database, Google Scholar, were utilized. Based on the thematic analysis conducted, this SLR identifies four key coping mechanisms: 1) flexible work arrangements, 2) social support, 3) employee assistance programs 4) Organizational interventions. Based on this SLR, this study provides a framework for establishing targeted treatments and policies that enhance the well-being and retention of married female hotel employees in this region by identifying the relationship between work-family conflict and coping techniques.

Keywords: Women Hoteliers, Coping Strategies, Work-Family Conflict, Hospitality Industry

SSH_7_WTYEN

Promoting Sustainability Through Academic Empowerment and Examining Academic Advancement for Individuals with Hearing Disabilities in Malaysia

Nor Aishah Adnan[1,*], Dr.W.Omar Ali Saifuddin Wan Ismail[1], Suzinursolahah Saleh[1]

[1]Department of Education, Faculty of Islamic Contemporary Studies (FKI), Universiti Sultan Zainal Abidin, Terengganu, Malaysia)

*Author for Correspondence: *noraishahadnan1@gmail.com*

Abstract

Individuals with hearing impairments encounter significant challenges in obtaining employment, education, and sustaining their livelihoods. The Department of Social Welfare has recently revealed that there are 46,127 people in Malaysia living with hearing impairments, underscoring the urgent need for society to fully understand and address the substantial barriers these individuals face daily. From 2019 to 2022, there has been a recorded increase in the number of students with disabilities (PWDs) registered with the Department of Social Welfare (DSW) each year. However, the trend is different for students with hearing impairments; the number of hearing-impaired students with disabilities has shown a decreasing trend over the same period. Strategies proposed include enhanced job coaching, training aligned with market needs, and policies for private sector support. Therefore, this paper will provide a comprehensive analysis of statistical data concerning students with hearing disabilities, examining their numbers and ratios in comparison to students with other types of disabilities in Malaysia. The researcher employs a qualitative method to analyze data and review papers, utilizing SPSS to categorize and code responses, which enables the quantification of patterns and trends within the qualitative insights gathered. There is a significant gap in understanding the specific reasons behind the decreasing trend of students with hearing impairments continuing their education beyond the secondary level. While general barriers to education and employment for persons with disabilities have been documented, there is only limited research focusing specifically on hearing-impaired students and the unique factors affecting their educational trajectory. Our examination reveals that while the number of students with hearing disabilities pursuing education beyond the secondary level has declined, this trend underscores the need for more focused research and tailored strategies to foster greater academic advancement and sustainability, it is essential to implement policies that enhance accessibility and support within educational institutions. These include developing specialized training programs, increasing job coaching, and ensuring that curricula are adapted to meet the unique needs of hearing-impaired students. Additionally, creating partnerships between educational institutions, government bodies, and the private sector can provide the necessary resources and support systems.

Keywords: PWDs, Hearing-Impairment, High Institutions

ABSTRACT (Law & International Relations)

LIR_1_MARVM

Saving Lives At Sea: The United Nations Convention on The Law of The Sea 1982

Syafiq Sulaiman[1,2*], Aminuddin Mustaffa[1], Mohd Afandi Salleh[3]

[1]Department of Law, Faculty of Law and International Relations, Universiti Sultan Zainal Abidin, Malaysia
[2] Department of Management, Faculty of Business, Economics, and Social Development, Universiti Malaysia Terengganu, Malaysia
[3] Department of International Relations, Faculty of Law and International Relations, Universiti Sultan Zainal Abidin, Malaysia

** Corresponding author: syafiq@umt.edu.my*

Abstract

The United Nations Convention on the Law of the Sea 1982 ("UNCLOS 1982") codifies the long-standing legal obligation to save lives at sea. However, the application of UNCLOS 1982 provisions related to this duty has encountered challenges, particularly in the context of migrant rescues and conflicting state obligations. This paper examines the legal framework of UNCLOS 1982 relevant to saving lives at sea, focusing on the duty to render assistance (Article 98(1)) and the requirement for coastal states to establish and maintain search and rescue (SAR) services (Article 98(2)). Through application of doctrinal legal methods by analysing primary and secondary legal materials such as treaties and conventions, and the case laws, the paper highlights the need for clarification and stronger enforcement of these provisions by states. It explores the situation of migrant rescues, discussing legal ambiguities surrounding disembarkation, competing state obligations, and the interplay between law of the sea, refugee law, and human rights law. The paper also addresses challenges such as jurisdictional issues and the gap between legal frameworks and practical implementation. The paper found that there is a need for clarification and stronger enforcement of UNCLOS 1982 provisions related to the duty to save lives at sea, particularly in the context of migrant rescues and conflicting state obligations. The paper concludes by offering recommendations for strengthening UNCLOS 1982 implementation, including clarifying disembarkation obligations, enhancing SAR cooperation, and balancing humanitarian and security concerns to uphold the vital principle of saving lives at sea

Keywords: UNCLOS 1982; saving life at sea; duty to render assistance; search and rescue; international law.

ABSTRACT
(Language, Communication & Educations)

LCE_1_NNHRG

Effect of Collaborative Work on Improving The Learners' Reading Skill

Said Mohammed Rashid Al Mashrafi[1]

[1] Centre For Fundamental and Continuing Education, University Malaysia Terengganu, 21300 Terengganu, Malaysia

*Author for Correspondence: *p5492@pps.umt.edu.my*

Abstract

Intending to talk about a study that aimed at studying the effect of collaborative work on EFL students' reading performance by using Collaborative Strategic Reading (CSR). CSR is a teaching technique that was originally developed by Klingner and Vaughn and which aims at improving the learners' reading skill. CSR is defined by many educators as an instructional program in which students work in pairs or in small groups to help one another master the academic content. It consists of four main strategies: preview, click and clunk, get the gist and wrap-up. The study population consisted of grade seven students studying the English language course in Omani basic Education schools during the academic year 2015-2016. Two grade seven basic education classes of a total of thirty-four students from a male school in Sharqiyah South educational district represented the sample of the study. A class of seventeen students represented the experimental group, which was taught the reading texts using Collaborative Strategic Reading. The other class represented the control group, which received traditional classroom instruction. A reading comprehension test was used to explore the research question. The major results of the reading test revealed a statistically significant difference between the students' achievement of the experimental group and the students' achievement of the control group using t-test that favored the experimental group that was taught using Collaborative Strategic Reading.

Keywords: Collaborative strategic reading

LCE_2_ANXWJ

Semantic Analysis of The Translated Financial Verses in Surat Al-Baqarah Based on The Interpretations of Khan And Al-Hilali, and Sahih International

Abdulaziz Mohamed Ahmed Ateik[1*], Kamariah Yunus[1], Suzana Sulaiman[2]

[1]English Language Department, Faculty of Languages and Communications, 21300 Universiti Sultan Zainal Abidin, Terengganu, Malaysia
[2]Arabic Language Department, Faculty of Languages and Communications, 21300 Universiti Sultan Zainal Abidin, Terengganu, Malaysia

*Author for Correspondence: *ateik70@gmail.com*

Abstract

This research will investigate the similarities and differences between the Qur'anic verses on finance and their translations in "The Qur'an: Arabic Text and English Translation" and "The Noble Quran: Interpretation of the Meanings of the Noble Qur'an in the English Language," particularly in relation to semantic ambiguity. It will examine the two English translations and determine whether they accurately convey the intended meanings. To express these principles effectively in English, the verses of the Qur'an related to finance must be translated in a way that closely reflects their intended meanings, ensuring that English readers can comprehend them accurately. With the two selected translations in hand, the research seeks to identify which one is closer to the readers' better understanding of the original Arabic text. To determine which of the two English translations of the economic and financial verses of the Holy Qur'an is more faithful to the original Arabic text's exegesis and clarity in English language usage, it adopts the semantic theory, which examines the relationship between words and sentences, to explore the lucidity of meaning and adherence to Qur'anic Exegesis rules. The researcher will employ descriptive and analytical methodologies and will identify words and phrases with potential ambiguity, leading to possible misunderstandings. Then, check their translations according to Ibn Kathir and the dictionaries such as the Free Dictionary. Finally, the researcher will comment on them and suggest improvements. The comparative analysis will find the key words, phrases in verses, compare them with the translations, and conduct an analysis and discussion of the differences based on the identification of the types of semantic ambiguity. The research found terms such as Zakah which should be transliterated, rather than translated as alms, because it has no equivalence in English and can be explained in brackets. To conclude, the researcher suggests conducting some improvements in the translation of the verses about finance.

LCE_3_UYPGH

تعليم اللغة العربية لأطفال اضطراب طيف التوحد الناطقين بغير العربية: تحديات وحلول

Abeer Ahmed[1*], Najihah A.W[1]

[1]Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin 21300, Terengganu, Malaysia

*Author for Correspondence: *abeerabdeltawab19@gmail.com*, *anajihah@unisza.edu.my*

ملخص الدراسة

يعاني تعليم اللغة العربية لأطفال اضطراب طيف التوحد الناطقين بغير العربية الكثير من المشكلات، أهمها ما يتعلق بطبيعة أطفال طيف التوحد واختلافهم عن الأطفال العاديين ومنها ما يتعلق بالمناهج المقدمة لهؤلاء الأطفال، و طرق التعليم المستخدمة معهم، لذلك هدفت الدراسة إلى التعرف على أهم الطرق التعليمية المستخدمة لتعليم اللغة العربية لأطفال طيف التوحد الناطقين بغيرها، والوقوف على أهم التحديات التي تواجه تعليم اللغة العربية كلغة أجنبية لهؤلاء الأطفال، و الكشف عن بعض الحلول المقترحة لمواجهة هذه التحديات، ولتحقيق هذه الأهداف اعتمدت الدراسة المنهج الوصفي التحليلي في الرجوع للمصادر وجمع البيانات ومناقشتها، والدراسات ذات الصلة بموضوع الدراسة،وتصنف الدراسة على أنها دراسة نوعية استخدمت فيها الباحثة المقابلة كأداة لجمع البيانات، وتم التوصل إلى بعض النتائج منها: أن تعليم اللغة العربية لأطفال طيف التوحد الناطقين بغير العربية يعاني بعض المشكلات منها ما هو متعلق بطبيعة أطفال طيف التوحد ،والمناهج المقدمة لهم، وطرق التعليم المستخدمة معهم، وتم اقتراح حلول لهذه المشكلات أهمها استخدام الأنشطة والألعاب التعليمية باعتبارها من أهم الطرق المناسبة لهؤلاء الأطفال، تحديد مهارات لغوية خاصة لتعليم اللغة العربية لأطفال طيف االتوحد الناطقين بغيرها كي تتناسب مع طبيعتهم، وقد أوصت الباحثة بضرورة استخدام الألعاب اللغوية التعليمية مع أطفال طيف التوحد، و لابد من إعادة النظر في برامج تعليم اللغة العربية كلغة أجنبية لأطفال طيف التوحد الناطقين بغيرها وبناء برامج خاصة لهم تناسب قدراتهم وتراعي ميولهم. وقد اقترحت الباحثة بعض المهارات اللغوية المناسبة لأطفال طيف التوحد وكذلك بعض الألعاب اللغوية التعليمية المناسبة لهم.

الكلمات المفتاحية: عليم اللغة العربية ,أطفال اضطراب طيف التوحد, الناطقين بغير العربية ,تحديات, حلول

ABSTRACT
(Business & Management)

BM_1_AZPWV

Detecting Accounting Fraud: A Review of Divulging Models For Future Research

Rabiu Abdullahi[1*], Wan Amalina binti Wan Abdullah[1]

[1]School of Accounting, Faculty of Business and Management, Universiti Sultan Zainal Abidin, Malaysiab Department of Management,

** Corresponding author: SI3878@putra.unisza.edu.my*

Abstract

The community of shareholders, investors, as well as creditors is currently in dilemma regarding the reliability of financial data as detecting accounting fraud has become a major concern in the field of financial analysis worldwide. Accounting fraud as deliberate material misstatements in the corporate financial reports, has severe consequences for stakeholders and corporate performance because it distorts the process of drawing effective financial decisions. This paper provides a comprehensive assessment of various models employed in accounting fraud detection. It explores outmoded statistical methods, modern machine-learning techniques, and hybrid models, highlighting their strengths and limits. The paper emphasizes the importance of continuous model evolution to keep up with the sophisticated and evolving nature of accounting fraud. This review concludes with future research directions, emphasizing the integration of robust accounting knowledge and advanced analytics for more effective accounting fraud detection. Lastly, the paper aims to contribute to the field of knowledge on combating accounting fraud, providing insights for researchers, practitioners, and policymakers involved in protecting financial integrity and transparency.

Keywords: Accounting fraud, Fraud models, Financial reports, Stakeholders.

BM_2_ZPMNB

A Study on Occupational Health and Safety Management Practices on Employees' Productivity in Uganda's Construction Industry

Nakazibwe Lydia[1], Bahyah Abdul Halim[1*]

[1] School of Management Sciences, Faculty of Business and Management, Universiti Sultan Zainal Abidin, Malaysia

** Corresponding author: bahyahahalim@unisza.edu.my*

Abstract

Developing countries such as Uganda often overlook the importance of occupational health and safety management in the construction sector, viewing safety measures as a hindrance rather than a necessity. However, neglecting these practices can have a significant impact on the productivity of workers within the industry. This study was conducted to investigate the impact of occupational health and safety management practices on employees' productivity in Uganda's construction industry. Using a descriptive research methodology based on a quantitative approach, this study selected 150 respondents from a total of 300 workers in the industry. The data were analyzed using means, standard deviations, and multiple standard regression. The results indicated a strong and positive impact on the efficiency of workers due to the variables examined in the research, such as the dedication of management to safety, communication about the safety, safety regulations, and initiatives, knowledge of first aid, personal protective equipment (PPE), and health and safety training. Unfortunately, the construction sector in Uganda lacks regular orientation, training, or refreshers for employees on health and safety matters. Therefore, employees in this sector frequently experience illnesses and accidents at work, often choosing not to report discomfort or injuries sustained on construction sites due to fear of job loss thus hindering the productivity of employees. In summary, managing hazards, equipment provision, and appropriate training for workers can all contribute to improving occupational health and safety in the construction industry of Uganda, which will subsequently increase employee productivity.

Keywords: OHS management practices, employee productivity, construction industry, Uganda.

ABSTRACT
(Sciences & Technology)

ST_1_GAYAT

Inhibitory Kinetics of Carbohydrate Hydrolyzing Enzymes and Influence on Glucose Uptake in Rat Hemi-Diaphragm by *Polyalthia longifolia* Bark Ethanolic Extract and Its Purified Fractions

Gayathri P[*1], Jeyanthi GP[2]

[1]Department of Crop Improvement, Vanavarayar Institute of Agriculture, Pollachi-642103, India
[2] Avinashilingam University, Coimbatore- 641003, India

*Author for Correspondence: gayatri.bio@gmail.com

Abstract

One of the current trends in management of diabetes is to decrease post-prandial hyperglycemia. This can be achieved through the inhibition of carbohydrate hydrolyzing enzymes such as alpha-amylase and alpha-glucosidase. Alpha-amylase and glucosidase inhibitors from medicinal plants can be used for developing new target drugs for the treatment of diabetes, obesity and hyperlipidemia. The bark of *Polyalthia longifolia* is used in Ayurvedic system of medicine for the manangement of various ailments including diabetes mellitus. The bark of *Polyalthia longifolia* was extracted using various polar and non-polar solvents and tested for inhibition of alpha-amylase and alpha-glucosidase among which the ethanolic extract was found to be more potent. The ethanolic extract of the bark (PLE) was tested for the *in vitro* inhibition of alpha-amylase using starch as substrate and alpha-glucosidase using p-nitro phenyl alpha-D-glucopyranoside as substrate to establish its *in vitro* hypoglycemic effect. The mechanism of inhibition was determined by Dixon plot and Cornish-Bowden plot. The cytotoxic effect of the extract was tested on L6 and Vero cell-lines. The extract was partially purified by TLC. The individual effect of the ethanolic extract, TLC fractions and its combinatorial effect with insulin and glibenclamide on glucose uptake in rat hemi-diaphragm were studied. Results revealed that the ethanolic extract of *Polyalthia longifolia* bark exhibited competitive inhibition of alpha-amylase and alpha-glucosidase. The extracts were also found not to be cytotoxic at the highest dose of 1 mg/mL. Glucose uptake study revealed that the extract alone and when combined with insulin, decreased the glucose uptake when compared to insulin control, however the purified TLC fractions exhibited significantly higher ($p<0.05$) glucose uptake by the rat hemi-diaphragm when compared to insulin. The study shows various possible mechanisms of *in vitro* hypoglycemic effect of PLE. The pharmacological potential of the active compounds present in the fractions may be tested in diabetic models.

Keywords: Carbohydrate hydrolyzing enzymes, glucose uptake, rat hemi-diaphragm, PLE

ST_2_VELVI

Biochemical changes of Polycystic Ovarian Syndrome (PCOS) in Selected Women and Its Management with *Glycyrrhiza glabra* Root Extract using Wistar Rat Model

Velvizhi S[1*], Annapurani S[1]

[1] Department of Biochemistry, Biotechnology and Bioinformatics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore- 641043 Tamil Nadu, India

Abstract

Polycystic ovarian syndrome (PCOS) is a most prevalent, metabolic, endocrine and reproductive disorder affecting the women in the reproductive age. In our study, the PCOS women were categorized into overweight and obese, the biochemical changes and risk factors were determined according to their BMI range. Abnormal lipid levels, Hyperinsulinemia, elevated androgen and low grade-inflammation were observed in both overweight and obese PCOS women. The *Glycyrrhiza glabra* root was screened for the presence of active phytocomponents. The effect of the methanolic extract of *Glycyrrhiza glabra* root (MEGgR) was found to be more in scavenging the free radicals in a dose-dependent manner than that of other extracts and exhibited promising antioxidative role. Phytoestrogens namely glabridin and genistein in the MEGgR were quantified using corresponding standards. The protective effect of MEGgR was assessed in letrozole induced PCOS using Wistar rat model. Biochemical parameters and histopathological studies of the ovarian tissue sections of experimental rats supported the protective effect of MEGgR against letrozole induced PCOS. These effects may be ascribed to the multiple pharmacological activities like antioxidant, hypoglycemic, anti-yperlipidemic, hepatoprotective, estrogenic and anti-androgenic effects of the root extract. Therefore, the *Glycyrrhiza glabra* roots could be a phytomedicine in treating PCOS abnormality and prevent the dysfunction of ovarian cell thereby improving fertility which further makes *Glycyrrhiza glabra* could be recommended as a potential drug for treating PCOS.

Keywords: Polycystic ovarian syndrome, *Glycyrrhiza glabr,* letrozole, BMI and Insulin

ST_3_VASUN

A Study on Non-invasive Self Diagnostic Health Monitoring Device

C.C.S Vasundhara[1*]

[1]Department of Biochemistry, Biotechnology and Bioinformatics, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

*Author for Correspondence: *vasundhara_bc@avinuty.ac.in*

Abstract

In contemporary medicine, non-invasive methods have grown importance because they offer useful diagnostic data without any intrusive procedures. Now-a-days health monitoring has become crucial, particularly for the early detection of diseases that reduce suffering and associated costs. In many cases, early intervention can lead to better medical diagnosis and point-of-care. Conditions such as hypertension, hyperglycemia, heart disease and cancer are among the most sought-after causes of mortality globally. Many of these illnesses can be predicted by following a diverse range of procedures which involve blood pressure, glucose, cholesterol levels, imaging scans and genetic detections allowing the examinations at ease and comfort without inserting the device. The current routine process adopted requires uncomfortable blood sample collection utilizing invasive procedures and is also time-consuming. As a result, it has become essential to investigate alternate diagnostic strategies that may be effective, affordable, shorter recovery time, low cost and user-friendly. Given the speed at which science is developing, healthcare systems and their applications need to be addressed and supported in a variety of ways due to its quick advancements in the field of technology. The present study highlights the significance and importance in the development of diagnostic non-invasive devices.

Keywords: hypertension, hyperglycemia, cholesterol, intrusive, diagnosis, healthcare.

ST_4_MOUSS

What Drives University Students' Intention to Use Mobile Commerce: A Structural Equation Modelling Approach

Moussa Barry[1*]

[1] Department of Business Administration, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia.

*Author for Correspondence: barrymoussa4@gmail.com

Abstract

Mobile commerce is an attractive alternative that has recently boomed due to mobile and telecommunication technology advancements. Although such a great mobile technology has numerous benefits, the adoption rate is far from expectations. The current study investigates the behavioural intention of Malaysian university students to use mobile commerce. The theory of planned behaviour is employed. 250 responses were collected from university students in Malaysia by distributing surveys through an online Google Form. A two-stage structural equation modelling was used to test the model of the study. The results showed that attitude, subjective norm, and perceived behavioural control have a significant relationship with the behavioural intention to use mobile commerce in Malaysia. The findings further revealed that attitude and subjective norms are the strongest factors of behavioural intention to use mobile commerce. In contrast, the finding demonstrated that security does not affect behavioural intention to use mobile commerce. These findings will benefit mobile commerce providers, retailers, brands, students, and consumers active in mobile commerce activities. This study in the context of mobile commerce in Malaysia will benefit academics, students, and all the stakeholders in the industry. The findings contribute to understanding the behavioural intention of Malaysian university students toward using mobile commerce. This study successfully extended the theory of planned behaviour (TPB) in mobile commerce usage by incorporating security constructs (SRT). The extended TPB model provides a greater understanding of the behavioural intention of Malaysian university students toward using mobile commerce.

Keywords: Mobile commerce, behavioural intention, security, Malaysia.

ST_5_HAFIZ

Normalisation of Upper Trapezius SEMG Signal Upon Stress Induction

Wan Nurul Aisyah binti Wan Khairul Annuar[1], Hafizu Ibrahim Hassan[2], Shahrul Na'im bin Sidek[1]

[1] Department of Mechatronics International Islamic University Malaysia, Kuala Lumpur, Malaysia
[2]Department of Mechatronics Engineering Ahmadu Bello University Zaria Kaduna, Nigeria

*Author for Correspondence: *sirhafiz01@gmail.com*

Abstract

Stress detection remains a critical area of research, with applications spanning healthcare, psychology, and human-computer interaction. Existing stress induction modules vary in their effectiveness and there is a lack of standardised methodologies for normalising the upper trapezius electromyography (sEMG) signal during stress induction. Therefore, the purpose of the research is to develop a normalised model that can be used in stress detection in each condition. Normalising a signal is the process of changing its amplitude or scale to a predetermined or desired level. The idea is to put the signal within a given range or scale while retaining its underlying properties. Normalisation technique is widely utilized in a variety of disciplines, including signal processing, audio engineering, data analysis, and machine learning. With observations of EMG signal changes and initial understandings into stress response, preliminary results suggest the viability of the research strategy. The research begins with the identification of a stressor and the design of a comprehensive experimental procedure. Subsequently, data collection is conducted, followed by preprocessing and analysis of the acquired EMG signals. The development of a stress detection model ensues, utilizing transfer learning with the MobileNet pretrained model. Upon model training, its accuracy is assessed, resulting in a classifier model achieving 95.5% accuracy. This accuracy is then compared with that of existing modules, with a simple main effects analysis revealing significantly higher scores (M = 0.615, SD = 0.277) for machine learning model assessments compared to questionnaire assessments (M = 0.325, SD = 0.242), with a p-value of 0.017. In future initiatives, it is anticipated to focus on the building of an improved model using an alternate machine learning approach. This is done to improve the precision with which stress is identified, or to potentially create a model capable of assessing stress levels.

Keywords: EMG Signal, normalization, upper trapezius muscle, stress induction, machine learning, transfer learning

ST_6_LSYSF

The Effect of Electronic Contributors Towards Functionality of Aptes-Imine Derivatives as Potential Bridge Material in Catalytic Activity

Syaharil Saidin[1*], Siti Kamilah Che Soh[1], Wan Mohd Khairul Wan Mohamed Zin[1]

[1] Faculty of Science and Marine Environment, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia

*Author for Correspondence: sitikamilah@umt.edu.my

Abstract

Recently, Schiff bases have attracted interest and emerged important among researchers in catalytic activity. These have been extensively studied due to their ideal electronic properties that promising delocalization of electrons in their π-conjugated system which enables the charge transfer to occur. Thus, a study was conducted in designing, synthesizing as well as theoretically assessing of these Schiff base ligands consisting variety of electronic contributors attributed by methoxy (OCH_3), hydrogen (H) and di-tert-butyl ($(C(CH_3)_3)_2$) in their molecular framework. Meanwhile, the introduction of 3-aminopropyltriethoxysilane (APTES) towards Schiff base ligands influences the textural properties of organic-inorganic materials. These combinations are believed in enhancing the charge carrier mobility along the molecular framework thus increasing their performance as bridging material. The assessment of these derivatives was successfully characterized via spectroscopic and analytical analyses such as Infrared (IR), Nuclear Magnetic Resonance (NMR), UV-Visible (UV-Vis) and Thermogravimetric Analysis (TGA). In turn, the HOMO-LUMO energy separation through quantum mechanical calculation provided the value of energy band gap in the range of 4.86 eV to 5.02 eV which indicates their chemical reactivity and stability. These APTES-Imine derivatives provide a valuable insight in designing high performance catalyst by emphasizing on the electronic properties of the bridge functions.

Keywords: Schiff bases, catalytic activity, π-conjugated system, bridge material, HOMO-LUMO energy band gap

ST_7_HBNWY

Effect of Different Avian Egg Yolks Semen Extenders on The Quality of Chilled-Preserved Sperm in Barbados Blackbelly Sheep

Mohd Nor Imran Mohd Azman[1], Asmad Kari[1*], Nadiawati Alias[1], Connie Fay Komilus[1], Mohd Shahmi Hakimi Mazlishah[2], Enike Dwi Kusumawati[3]

[1]Faculty of Bioresource and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, Besut 22200, Terengganu, Malaysia,
[2]Glami Lemi Biotechnology Research Centre, Jelebu, Negeri Sembilan, Malaysia,
[3]Universitas PGRI Kanjuruhan Malang, Kota Malang, Jawa Timur, Indonesia

*Author for Correspondence: *asmad@unisza.edu.my*

Abstract

Chicken egg yolk is commonly incorporated in semen extenders due to its rich content of low-density lipoprotein (LDL) and saturated fatty acids, which are thought to protect sperm cells during chilled preservation. Several studies have investigated the use of egg yolk in semen extenders for various species, but there is a notable lack of research on the use of alternative avian egg yolk in semen extenders, particularly for Barbados Blackbelly sheep. Thus, the aim of this study was to determine the effectiveness of different avian egg yolks on the semen quality of chilled-preserved Barbados Blackbelly sheep sperm. Semen samples were collected from Barbados Blackbelly rams (n=4) using an artificial vagina (AV). The samples were diluted at a ratio of 1:9 with Tris-based extenders, each comprising 20% of different egg yolk type (Control; Tris-based extender (C), Treatment 1; chicken egg yolk (CEY), Treatment 2; duck egg yolk (DEY), and Treatment 3; quail egg yolk (QEY)). The diluted semen was placed in a microcentrifuge tube and chilled at 4°C. The chilled-preserved semen was thawed every 4 hours for evaluation of sperm quality for 24 hours. The QEY semen extender showed the highest post-chilled preservation sperm progressive motility (26.5±8.28%) and progressive velocity (64.9±7.55%). Furthermore, it had the highest rate of sperm average path velocity (85.3 ± 9.78%) compared to other treatments. In conclusion, this study reveals that quail and duck egg yolks show promise as a viable substitute for chicken egg yolk in semen extenders for chilled preservation of Barbados Blackbelly sheep sperm, potentially providing comparable or enhanced sperm quality. Further research is needed to fully understand the potential of QEY and DEY as alternative semen extenders for other animal species.

Keywords: semen extender, sperm quality, path velocity, progressive motility, chilled preservation

ST_8_UDTNJ

Determination of Antioxidant, Nitric Oxide Scavenging Activity, Total Phenolic And Flavonoid Content From Propolis of *Geniotrigona thoracica*

Muhammad Amir Fikri MD Fauzi[1], Nor Atiqah Jusril[1], Ahmad Nazif Aziz[2] & Khamsah Suryati Mohd[1,*]

[1] School of Agriculture Science and Biotechnology, Faculty of Bioresource and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22000, Besut, Terengganu, Malaysia
[2] Faculty of Science and Marine Environment, Universiti Malaysia Terengganu, 21030, Kuala Nerus, Terengganu, Malaysia

*Author for Correspondence: *khamsahsuryati@unisza.edu.my*

Abstract

Background: Propolis, a substance produced by bees for hive construction, has piqued major interest for decades due to its potential antioxidant effects. The study aimed to determine the antioxidant activity, nitric oxide scavenging activity, and total phenolic and flavonoid content of *Geniotrgiona thoracica (G. thoracica)* propolis from two localities, namely Ketereh (K) and UniSZA's apiary (A). Methods: The propolis undergoes the process of maceration with methanol for 3 days to form methanolic extract (ME) and further processes to form fractions from hexane (HEX FR), dichloromethane (DCM FR), and methanol (MEOH FR). The phenolic (TPC) and flavonoid (TFC) content were calculated as gallic acid and quercetin equivalents, respectively. The antioxidant properties of the extracts and fractions were evaluated based on DPPH, ABTS, FRAP, and nitric oxide radical scavenging activity. MEOH FR from both localities have the highest TPC and TFC values. Findings: MEOH FR A had 179.13 mg/ml GAE for phenolic content, while MEOH FR K had 99.84 mg/ml GAE. For TFC, MEOH FR A had 375.05 mg/ml QE, while MEOH FR K had 193.42 mg/ml QE. MEOH FR A had the lowest IC_{50} values for both 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2′-casino-bis (3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) with 118.11 µg/mL and 27.68 µg/mL, respectively. Ferric ion reducing antioxidant power (FRAP), and NO scavenging activity, MEOH FR A had 32.77 µM (Fe^{2+}/mL of the sample), and 30.1%, respectively, while 16.74 µM (Fe^{2+}/mL of the sample), 18.24%, respectively. As a result, MEOH FR from both localities could be considered a good source of antioxidants due to their antioxidant properties. Conclusion: This study highlights the need for further evaluation in clinical studies of its use as an anti-inflammatory agent.

Keywords: Malaysian stingless bee, propolis, antioxidant activity, NO scavenging activity

ST_9_UAKWN

Partitioning Characteristics and Bioaccesibility of Tocotrienol in Oil-In-Water (O/W) Emulsions with Different Surfactants

Sharifah Nur Hidayah Sayed Abdul Rahman[1], Wan Anwar Fahmi Wan Mohamad[1]*, Nur Lyna Binti Nazly[1], Nurul Fahimah Binti Ramli[1], Wan Mohd Fadli Wan Mokhtar[1], Mohd Adzim Khalili Rohin[2], Azman Bin Azid[1]

[1]Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia,
[2]Faculty of Health Science, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Nerus, Terengganu, Malaysia.

*Author for Correspondence: *fahmimohamad@unisza.edu.my*

Abstract

Background: The increasing significance of tocotrienols as a subclass of vitamin E in a functional food nowadays is due to their distinctive health benefits, which include preventing cellular aging and lowering the risk of diseases such as dementia, cancer, and cardiovascular disorders. However, the partitioning of tocotrienols in emulsions and their bioaccessibility in the human gastrointestinal tract (GIT) have yet to be thoroughly investigated considering the purpose of functional food enriched with tocotrienols which is to give health benefits upon consumption. The first objective of this study was to determine the partitioning characteristics of tocotrienol in oil-in-water (O/W) emulsions when varying the surfactant upon storage, while the second objective was to evaluate the bioaccessibility of tocotrienol in O/W emulsions when varying the surfactant. Methods: The variation of surfactants used were Tween 20, glyceryl monostearate (GMS), lecithin and ovalette. O/W emulsions were made by mixing two immiscible phases (oil phase dispersed in aqueous phase) together with surfactant, tocotrienol and xanthan gum using a mixer-homogenizer with a constant speed of 3000 rpm for 30 minutes. For partitioning, the emulsion with GMS retained the highest tocotrienol in aqueous phase throughout the storage. Findings: As for bioacccessibility analysis, GMS had the highest bioaccessibility across all three phases of GIT, especially in the saliva (95.47%) and intestinal (56.68%) phases. Conclusion: The study of partitioning characteristics and bioaccessibility of tocotrienols is important to formulate a stable and highly bioaccessible emulsion-based delivery system with encapsulated bioactive.

Keywords: tocotrienol, partitioning, bioaccessibility, emulsion

ST_10_DBJJR

Microplastic Contamination of Commercial Fish on The East Coast of Peninsular Malaysia

Riri Ezraneti[1,2*], Munawar Khalil[2,3], Fikriah Binti Faudzi[1], Noor Artika Hassan[4], Mohd Fuad Miskon[5], Juliana Mohamed[5]

[1]Department of Marine Science, Kulliyyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia
[2]Department of Marine Science, Faculty of Agriculture, Reuleut Main Campus, Universitas Malikussaleh, North Aceh 24351, Indonesia
[3]Leibniz Centre for Tropical Marine Research (ZMT), Fahrenheitstraße 6, 28359 Bremen, Germany
[4]Department of Community Medicine, Kulliyyah of Medicine, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia.
[5]Institute of Oceanography and Maritime Studies (INOCEM), International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

*Author for Correspondence: *ririezraneti@unimal.ac.id*

Abstract

Background: Microplastics are widely regarded to have a significant capacity to contaminate water and marine life, hence endangering human lives. This research was conducted to determine microplastic contamination on commercial fish flesh, both pelagic and demersal, on the east coast of Peninsular Malaysia. Methods: Samples were collected at three Fisheries Development Authorities of Malaysia (LKIM) along the east coast of Peninsular Malaysia (Kelantan, Pahang, and Johor) and then analysed using advanced spectroscopic techniques to identify contamination of microplastics in fish flesh. Findings: The results indicate that microplastics have contaminated commercial fish flesh along the east coast of Peninsular Malaysia. Microplastics are predominantly composed of fibres and fragments, with most of them being black in colour and having a size < 200 µm. Microplastics that are frequently found include polyamide (PA), rayon, and ethylene propylene diene monomer (EPDM). There is no significant difference in the total number of microplastics found in pelagic and demersal fish. Conclusion: Further study is required regarding health risk assessment in Malaysian communities, particularly on the east coast of peninsular Malaysia.

Keywords: Microplastic, Fish flesh, Commercial, Peninsular Malaysia

ST_11_FHZBG

Cat Food Technology Based on Shariah Perspective to Enhance Local Industry

Muhammad Wafiuddin @Ahmad Su'ed Bin Rahim[1*], Abdul Hafidz Bin Haji Omar[1], Amir Husni Mohd Shariff[2], Mariam Firdhaus Mad Nordin[3]

[1]Faculty of Islamic Technology, Universiti Islam Sultan Sharif Ali, Bandar Seri Begawan, Brunei Darussalam
[2]Fakulti Sains Makanan & Permakanan, Universiti Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia
[3]Malaysia Japan International Institute of Technology, Universiti Teknologi Malaysia, Jalan Sultan Yahya Petra, 54100, Malaysia

*Author for Correspondence: *kasyfaimani@gmail.com*

Abstract

This concept paper addresses the demand for sustainably and ethically manufactured pet food, to develop a compliant cat food using locally sourced ingredients, specifically fish and upcycled chicken intestines for seasoning. The significance of this study is in line with Sustainable Development Goal (SDGs), particularly SDG 12 (Responsible Consumption and Production), and also emphasizes the local resource utilization and waste reduction. The main goal (aim) is to provide a nutritionally balanced, palatable, compliant cat food. Objectives include sourcing local ingredients, ensuring compliance with Halal standards, and augmenting product's palatability through innovative use of chicken intestines. The method involves conducting a series of experiments to formulate cat food by combining ground fish meal, rice powder, and corn gluten with chicken intestines, which are dried, ground and used as seasoning. This process transforms waste into valuable resource, supports local economies, and adheres to ethical standards. The expected outcome is a high-quality cat food that meets dietary needs and appeals to cats while promoting sustainability and ethical production practices. The conclusion highlights the potential of this innovative approach to completely transform the pet food industry by proving that ethical and sustainable practices may result in better pet nutrition and establish a new standard for ethical pet food production.

Keywords: Cat Food, Technology, Shariah, Industry.

ST_12_TXNGR

Phytochemical Screening and Bioactive Compound Analysis (Total Phenolic Content, Total Flavonoid Content and Antioxidant Activity) of Safawy Date Palm Extracted via Green and Conventional Extraction Technologies

Muhammad Khairi Bin Hj Muhammad Khairol Alaika*[1], Abdul Hafidz Bin Haji Omar[1], Mariam Firdhaus Mad Nordin[2], Norrashidah Mokhtar[3]

[1]Faculty of Islamic Technology, Universiti Islam Sultan Sharif Ali, Bandar Seri Begawan, Negara Brunei Darussalam
[2]Malaysia Japan International Institute of Technology, Universiti Teknologi Malaysia, Jalan Sultan Yahya Petra, 54100, Malaysia
[3]AM Zaideen, 35E-G-05, Jalan Wangsa Delima 5, KLSC 2, Seksyen 5 Wangsa Maju, 53300 Kuala Lumpur, Malaysia

*Author for Correspondence: *khairi301298@gmail.com*

Abstract

Date palm (Phoenix dactylifera) is a well-known fruit among the Muslim countries to break their fast during the month of Ramadhan. It is known for their high amount of sugar content which can reach up to 70% in dried form. Dates have been scientifically proven to contain health benefits such as antimutagenic, antioxidant and anti-inflammatory bioactivities among many others. There are more than thousands different types of date palm have been discovered and studied on and some of the most popular ones include Ajwa, Kimri, Zahidi and Medjool. The purpose of this research is to investigate the presence of phytochemicals, the total phenolic and flavonoid content, and the antioxidant activity contained in the date palm, namely the Safawy variety. The reason for conducting this research is because there are only a few sources that report the information for the bioactive compound analysis of this particular date palm variety. Moreover, this research uses quantitative methodology using two types of extraction technologies, i.e. subcritical water extraction (SWE) and decoction methods on Safawy date palm. The phytochemical screening is to determine the presence of alkaloid, steroid, terpenoid, tannin, saponin and glycosides in the date palm. The total phenolic content, total flavonoid content and the antioxidant activity analysis was conducted using the Folin-Ciocalteu, Aluminium Colorimetric and DPPH respectively and measured using Spectrophotometer. The findings have shown that the Safawy date palm contains high total phenolic and flavonoid content, and antioxidant activity after extraction particularly in its seed.

Keywords: Date palm, subcritical water extraction, decoction, phytochemical, bioactive compounds

ST_13_UWWBB

Effects of Replacing Soybean Meal With Organic Wheatgrass (*Triticum aestivum)* on Growth Performance, Carcass Yield and Meat Quality of Village Chicken *(Gallus gallus domesticus)*

Rukayat Omolara Folarin[1,2], Lina Nadhirah Abdullah[1], Muhammad Afiq Zabhin[1], Ariff Imran Alkaf[1], Putri Athirah Zamrifana[1], Farrah Izzuanie Zainudin[1], Hanisah Basir[1], Nurhadirah Hairil[1], Nurafiqah Anis Ismail[1], Asmad Kari[1], Enike Dwi Kusumawati[3], I Wayan Karyasa[4] and Connie Fay Komilus[1*,]

[1]Department of Animal Science, Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22200, Terengganu
[2]Sultan Farm Subsidiary, Folajin Global Consult RC, 3228188 Molaagbo, Ikire, Osun State, Nigeria
[3]Department of Animal Husbandry, Universitas PGRI Kanjuruhan Malang, Jl. S. Supriadi No. 48, Malang 65148, East Java, Indonesia
[4]Department of Chemistry, FMIPA Universitas Pendidikan Ganesha, Jalan Bisma Utara No. 75X Singaraja, Bali, 81117, Indonesia

*Author for Correspondence: *conniekomilus@unisza.edu.my*

Abstract

Wheatgrass has become popular and widely used for human consumption due to its high levels of chlorophyll, nutrients, vitamins, minerals, and antioxidants. However, it is uncommon for farmers to feed hydroponic fodder to livestock. This study aimed to investigate the effects of supplementing a hydroponic wheatgrass diet as a partial replacement for soybean meal on the growth performance, carcass yield, and meat quality of village chickens (ayam kampung). Seventy-five-day-old chicks were used in a 42-day feeding trial using five formulated diets. Feed was formulated at five dietary treatment groups designated as C, T1, T2, T3, and T4 by incorporating 0, 5, 10, 15, and 20% levels of wheatgrass fodder, respectively. A feeding trial in triplicate was conducted at the UniSZA Besut Campus. Samplings of growth performance were done weekly. After a 42-days feeding trial, carcass yield and meat quality were measured after slaughtering chicken according to the Halal procedure. The collected data were analysed using one-way ANOVA MiniTab. Birds in T3 (15% inclusion of wheatgrass fodder) recorded the highest final weight and weight gain, followed by T4 (20% inclusion of wheatgrass fodder) and the lowest feed conversion ratio (FCR) was observed in T3, T4, and C. There were significant differences ($p > 0.05$) in meat quality parameters except for water holding capacity. 15% inclusion of wheatgrass is suitable to maximise growth performance, carcass yield, and meat quality for village chicken.

Keywords: Wheatgrass fodder, Village chicken, Growth performance, carcass yield and meat quality

ST_14_QJCVQ

Effect of Different Types of Extenders on Chilled Semen of Malaysian Indigenous Cockerels

Tijjani Haruna Usman[1], Halimatun Yaakub[1], Suraya Mohammad Salleh[1], Nurhusien Yimer Degu[2] and Asmad Kari[3]

[1] Department of Animal Science, Faculty of Agriculture, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia
[2] Department of Veterinary Clinical Studies, Faculty of Veterinary Medicine, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia
[3] School of Animal Science, Aquatic and Environment, Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin (UniSZA), Kampus Besut, Terengganu, Malaysia.

*Author for Correspondence: *hali@upm.edu.my*

Abstract

In animal breeding program, the quality of the ejaculate after collection is highly influenced by the extender used during processing and storage. This study aimed to investigate the effect of Ringer's solution (RS), matured coconut water (MCW) and young coconut water (YCW) based extenders on the quality of post-chilled Malaysian Indigenous (Ayam Kampong) cockerel semen Twelve Cockerels (n=12). The cockerels were managed intensively and divided into cages as experimental units. Cockerels were fed daily and given ad libitum access to water. Semen from four cockerels was collected using the dorsal-abdominal massage method and divided into three parts, mixed with the above extenders at a ratio of 1:10 (semen extender). at room temperature and was then gradually cooled to 4°C - 5℃ over 30 hours and evaluated at 3, 6, 12,18,24, and 30 hours intervals. The post-chilled had a significant effect ($p<0.05$) on the percentage of live sperm in all three extenders. MCW performed best ($p<0.05$) across all the post-chilled times, followed by RS, and YCW. MCW (53.0±1.89%) showed higher live sperm ($P<0.05$) compared to RS (31.2±1.45%) while YCM (25.7±1.86%) had the lowest percentage of live sperm. Progressive motility decreased rapidly and below average at 6 hours (49.8±0.23%), 18 hours (46.23±3.51%), and 30 hours (44.9±4.27%) for YCW, RS, and MCW respectively. Mass motility was not adversely affected by post-chilled time at 3, 6, 12, and 18 hours across all three extenders, although it is significantly ($p<0.05$) higher for MCW at 30 hours of storage. For morphologically normal sperm, matured coconut water performed better than RS, which performed significantly ($p<0.05$) similar to YCW at 3, 6, 12, and 30 hours, however, RS still performed significantly ($p<0.05$) higher than YCW at 18 and 24 hours. Matured coconut water (26.50±2.25%) was able to preserve the overall abnormality longer (>18 hours) after chilling than YCW (29.33±2.03%) (>12 hours) and RS (14.67±1.17%) (>6 hours). The study has shown that MCW extender significantly preserves cockerel semen quality, compared to RS and YCW. Therefore, MCW is recommended as an alternative extender for cockerel semen chilling.

Keywords: cockerels, semen, chilling

ST_15_BHVDU

Optimizing Gender Selection in Livestock: Evaluating Sperm Sexing Techniques Using Egg White Sedimentation (EWS)

Nur Syuhada Ahmad Nordin[1], Asmad Kari[1], Connie Fay Komilus[1], Azman Azid[1], Mohd Shahmi Hakimi Mazlishah[2], Enike Dwi Kusumawati[3], I Wayan Karyasa[4].

[1]Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin, Besut, Terengganu, Malaysia,
[2] Glami Lemi Biotechnology Research Centre, Jelebu, Negeri Sembilan, Malaysia,
[3]Universitas PGRI Kanjuruhan Malang, Kota Malang, Jawa Timur, Indonesia,
[4]Universitas Pendidikan Ganesha, Bali, Indonesia.

*Author for Correspondence: *syuhadaahmadnordin@gmail.com*

Abstract

Background: Sperm sexing is a process that entails the segregation of sperm cells that carry either X or Y chromosomes to enhance the chances of producing offspring of a particular gender. This process is usually performed using flow cytometry, which is costly and impractical for small-scale farmers. An alternative approach utilizing egg white has been suggested. The objectives of this research were to determine the quality and purity of sexed sperm using the EWS method. Methods: Semen samples were collected from Barbados Black Belly rams (n=3) and examined macroscopically and microscopically before being subjected to the EWS method. The semen samples were then treated with albumin and three different egg yolk-based extenders (C: Tris-base, T1: Chicken, T2: Duck, T3: Quail). The samples were incubated in a water bath and separated into upper and lower fractions after centrifugation. Sperm motility, viability, and purity were measured in both fractions. Findings: The motility of fresh semen was highest in the control group (86.6±2.31%), followed by T1, T2 and T3 groups. However, post-sexing sperm motility was highest in T1 for the upper (73.1±4.49%) and lower fractions (79.7±3.38%). Additionally, viability after sexing indicated that T2 exhibited a high percentage of normal sperm in the upper fraction (95.1±0.84%), while T1 showed a high value of normal sperm in the lower fraction (95.4±1.02%). The results revealed that the T1 group, which used a chicken egg yolk-based extender, performed best in segregating X- and Y-sperm in both upper and lower fractions. This study suggests that although albumin-based sperm sorting can reduce sperm quality, it remains a practical and cost-effective method for gender selection in animal breeding particularly with chicken egg yolk-based extenders. Conclusion: This approach may be a viable alternative for smaller-scale operations where traditional flow cytometry is not economically feasible.

Keywords: Albumin, Egg white sedimentation, Semen, Sperm sexing.

Investigating Fat Content in Goat Milk at The Three Lactational Stage

Sikiru Yesirat Adebukola*, Noor Syaheera Ibrahim

School of Animal Science, Aquatic Science and Environment, Faculty of Bioresource and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia

*Author for Correspondence: yadebukonla@gmail.com

Abstract

Background: Milk serves as a superb provider of the most essential minerals necessary for human health. The fat content in goat milk is a subject of substantial research because of its nutritional implications and potential health advantages. The fat component of goat milk, often referred to as butterfat globules, contributes significantly to its unique properties. However, fat content in goat milk fluctuates during the various stages of lactation, exhibiting alterations in the fatty acid composition and concentration at different periods of lactation. Research suggests that goat milk consumption offers potential health benefits across various physiological functions in humans, particularly for infants and older adults. There is limited research conducted on the fat content of goat milk at different phases of lactation in Malaysia. Thus, the current study investigates the influence of the lactation stage (early, mid, late) on goat milk's fat profile, a crucial factor in maximizing goat milk's potential health benefits. Methods: In this research study, dairy goats were divided into three groups: early (20 days in milk), mid (60 days in milk), and late (120 days in milk) lactation stages. Milk samples were collected from the three groups for milk composition analysis using Milkotester; this technique is used for percentage analysis of fats. Findings: This study finds that there is a significant difference ($p<0.05$) among the three lactational stages. This study demonstrates a pronounced influence of the lactation stage on goat milk fat content, with the highest values observed during the initial stages. Conclusion: Understanding the variations in fat content throughout lactation is essential for optimizing the nutritional value and health benefits of goat milk, and for ensuring that lactating does receive adequate nutrition to support milk production.

Keywords: lactating animals, goat milk, fat content, lactational stage.

ST_17_SQGDT

Comparison of Disease Incidence of Melon Manis Terengganu During Monsoon, Drier, and Transition Seasons

Nik Nurnaeimah Nik Muhammad Nasir[1*], Khamsah Suryati Mohd[1], Noor Hafizoh Saidan[2], Zakiah Mustapha[1]

[1] School of Agriculture Science & Biotechnology, Faculty of Bioresource and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia
[2] Faculty of Agro-based Industry, Universiti Malaysia Kelantan, Campus Jeli Locked Bag 100, 17600, Jeli, Kelantan, Malaysia

*Author for Correspondence: naeimah92@gmail.com

Abstract

Background: Melon Manis Terengganu (*Cucumis melo* var. *Inodorus* cv. Manis Terengganu 1) is a type of melon that is grown exclusively in the Terengganu region of Malaysia. Despite being popular for its sweet and refreshing taste, its production is facing challenges due to diseases. This study aims to analyse the incidence of diseases and their relationship with climate change. Methods: The incidence of the disease was recorded for three seasons: monsoon, drier and transition. Climate change data was obtained from the Malaysian Meteorological Department from October 2020 to April 2022 including 24 hours mean relative humidity (%), rainfall (08-08 MST) (mm), maximum wind speed (m/s), maximum wind direction (°), 24 hour mean cloud cover (oktas), 24 hour mean temperature 2.00 pm (°C), mean MSL pressure (Hpa), global radiation (MJm-2), and evaporation (mm). Findings: The study found that more than 50% of diseases related to wilting and vascular issues occurred during the monsoon season (October 2020- January 2021). In the drier season (August 2021), during the second week of growth, the plants were infected by viruses with a rate of 57.22%, and 3.89% of the plants were dead. while over 90% of powdery mildew cases were recorded during the transition season (February-April 2022) in the final stages of the plantation. Conclusion: These findings highlight the importance of monitoring disease patterns and understanding their relationship with climate factors to enhance Melon Manis Terengganu production. Further research and targeted interventions are crucial for sustainable cultivation.

Keywords: Melon Manis Terengganu, Disease Incidence

ST_18_GEZKT

Antioxidant, Nitric Oxide Radical Scavenging Assay, Antibacterial and Chemical Properties of *Blumea balsamifera*

Nora Atiyah Mohd Razali[1*], Khamsah Suryati Mohd[1], Nor Atiqah Jusril[1]

[1]Faculty of Bioresources and Food Industry, University Sultan Zainal Abidin, Malaysia

*Author for Correspondence: peiwen@unisza.edu.my

Abstract

Background: *Blumea balsamifera (B.balsamifera*) contain several biological capacities such as antioxidant, antimicrobial, antifungal, anti-inflammatory, hypolipidemic, anti-infertility, hepatoprotective activity, antidiabetic, gastroprotective, antitumor and anticancer. Methods: *B.balsamifera* undergoes the process of maceration with methanol for 3 days to form methanolic extract (ME) and further processes to form fractions from Hexane(HEX FR), dichloromethane (DCM FR) and methanol(MEOH FR). This research evaluated antioxidant activity, nitric oxide radical scavenging assay and antibacterial activity. Phytochemical screening was carried out by thin layer chromatography (TLC) analysis and visualized by derivatives agents. Total phenolic compound (TPC) were evaluated using Gallic acid as the standard and total flavonoid content (TFC) were evaluate using Quercetin as the standard. All the extracts were subject to a screening of antioxidant test (DPPH) 2,2-Diphenyl-1-picrylhydrazylradical scavenging activity, Ferric reducing ability of plasma (FRAP) and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS). *B.balsamifera* was asses using nitric oxcide assay(NO) in biochemical assay. For antibacterial two Gram-negative and two Gram-positive strains of bacteria are used in this research. Minimum inhibitory concentrations (MIC) and minimum bactericidal concentrations (MBC) is tested to bacteria that involved. Findings: Result of this study TPC and TFC, ME obtain the higher phenolic content (mg GAE/g). MEOH FR had highest NO assay at IC50 value 60ug/ml .It also was found that DCM FR of *B.balsamifera* possessed the highest antioxidant activity with the lowest concentration of IC50 value at 3 µg/ml evaluated by DPPH scavenging assay. For FRAP it was found MEOH FR of *B.balsamifera* has the lowest concentration for IC50 value is 3 µg/ml and for ABTS,MEOH FR has the highest percentage of activity which at 44.88%. DCM FR and MEOH FR also possessed a strong antibacterial activity with the zone inhibition 15mm above. Result showed that the MIC, DCM FR at 500 ug/ml inhibit *B.cereus.* Conclusion: This conclusion was supported by MBC test,where ME,HEX FR,DCM FR and MEOH FR with concentration lower than MIC values confirm bacterial growth.

Keywords: *Blumea balsamifera*, phytochemical screening, biochemical assay,antibacterial

ST_19_TJWSC

Prevalence and Molecular Detection of *Corynebacterium pseudotuberculosis* in Small Ruminants with Clinical Caseous Lymphadenitis in UniSZA Pasir Akar Farms

Nik Danial Asyraf Nik Mustaffa[1*], Noor Syaheera Ibrahim[1], Mohd Faizal Ghazali[1], Chai Min Hian[1]

[1]School of Animal Science, Aquatic Science, and Environment, Faculty of Bioresources and Food Industry, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu Darul Iman, Malaysia.

*Author for Correspondence: ndanial.nd@gmail.com / syaheeraibrahim@unisza.edu.my

Abstract

Corynebacterium pseudotuberculosis is a zoonotic pathogen which causes Caseous lymphadenitis (CLA) an inflammation of the lymph nodes characterized by the presence of a cheese-like substance within the nodes. CLA has been a major disease affecting small ruminants in Malaysia. This study was carried out to determine the prevalence of CLA infections and detect the presence of *C. pseudotuberculosis* among CLA infected small ruminants. A total of 100 small ruminants (50 goats and 50 sheep) from UniSZA Pasir Akar Farm were examined to determine the presence of clinical CLA infections. The pus samples from the animals with clinical CLA infections were collected. The pus samples were then streaked on 5% sheep blood agar and presumptive bacterial colonies were then subjected to polymerase chain reaction (PCR) to screen for the presence of *pld* (203 base pairs) and 16S rRNA genes. Bacterial isolates that carried both *pld* and 16S rRNA genes were confirmed to be *C. pseudotuberculosis.* In this study, 7% (7/100) of the small ruminants (one goat and six sheep) were found infected with clinical CLA. PCR test revealed that *C. pseudotuberculosis* was present in all the seven pus samples collected. This study revealed that superficial abscesses in goats and sheep raised in UniSZA pasir akar farm were associated with *C. pseudotuberculosis* infections. A sustainable control strategy would be recommended to effectively control and reduce the impact of *C. pseudotuberculosis* infection.

Keywords: *Corynebacterium pseudotuberculosis*, caseous lymphadenitis, polymerase chain reaction, small ruminants

ST_PP_GUKUW

Investigating the Antibacterial Potential of Isomeric Substituted Dithiocarbazate from *S*-Benzyldithiocarbazate: Experimental and Computational Insights

Siti Khadijah Roslan[1], Zalikha Ibrahim[2, 3*], Fiona -N.-F. How[1], Nurasyikin Hamzah[1]

[1] Department of Chemistry, Kulliyyah of Science, International Islamic University Malaysia, (IIUM), 25200, Kuantan, Pahang, Malaysia
[2] Department of Pharmaceutical Chemistry, Kulliyyah of Pharmacy, International Islamic University Malaysia, (IIUM), 25200, Kuantan, Pahang, Malaysia
[3] Drug Discovery and Synthesis Research Group, Kulliyyah of Pharmacy, International Islamic University Malaysia, (IIUM), 25200, Kuantan, Pahang, Malaysia

*Author for Corresponding: *khadijah5780@gmail.com*

Abstract

Background: The escalating challenge of antimicrobial resistance poses a pressing concern for human health, underscoring the critical need for the development of drug candidates. A notable advancement involves the utilization of dithiocarbazate derivatives in designing pharmacologically active compounds. This study presents the synthesis of an isomeric series of *S*-benzyldithiocarbazate (SBDTC), namely *S*-benzyl-β-*N*-2-methoxybenzoyl (SB2OME), *S*-benzyl-β-*N*-3-methoxybenzoyl (SB3OME) and *S*-benzyl-α-*N*-4-methoxybenzoyl (SB4OME). Methods: Structural elucidation was conducted using FTIR and NMR spectroscopy. *In-vitro* antibacterial activities assessed *via* minimum inhibitory concentration (MIC) assays revealed that SB3OME, which bears the methoxy moiety on the meta position of the phenyl ring after the azomethine bond, as the most potent inhibitor of bacterial growth against *Staphylococcus aureus* (ATCC 25923), *Bacillus cereus* (ATCC 11778), *Pseudomonas aeruginosa* (ATCC 27853), and *Escherichia coli* (ATCC 25922). Findings: An overall comparison with the different types of conventional antibiotics showed that all investigated compounds displayed limited activity against these bacteria, suggesting the need for further structural modification. Computational investigation was performed using molecular docking and molecular dynamics simulations to gain insight on the binding affinity and interactions of the compounds with the target protein, DNA gyrase B of *E. coli*. SB3OME exhibited the highest affinity towards both mutant and wild-type DNA gyrase B, while results from molecular dynamics simulations confirmed the stability of the ligand-protein complex throughout 100 ns. Conclusion: Overall, among the compounds investigated, SB3OME performed the best in both experimental and computational assessments.

Keywords: *S*-benzyldithiocarbazate, isomers, antimicrobial, molecular docking, molecular dynamics simulation

ST_PP_QISTI

A Comparative Analysis of The Emission of Indoor Radon Level (Alpha Radiation) from Construction Materials at A Brick Factory and A Quarry in Kuantan, Pahang

Nur Qistina Amalia Aminnudin[1], Nur Ira Shahira Ismail [1], Fairuz Mohd Nasir[1]

[1]Fakulti Sains Kesihatan, Universiti Sultan Zainal Abidin, Kampus Gong Badak, 21300 Kuala Nerus, Terengganu

*Author for Correspondence: *fairuznasir@unisza.edu.my*

Abstract

Radon is a naturally occurring radiation that releases alpha radiation from the earth's crust that includes clay, rocks, granite and marbles. Depending on the radon radiation level, a high indoor radon level has been stated as one of the lung cancer causes. In this study, comparative analysis of the emission of alpha radiation level in the office of a brick factory and a quarry in Kuantan is done. The aim of this study is to measure the indoor radon radiation readings in offices of the brick factory and quarry and see is there any risk of overexposed alpha radiation to employees at the offices in these two specific industries. The assessment tool used is the Corentium Home by Airthings Digital Radon Detector. The result of indoor radon radiation at both locations are safe (below 2.7 pCi/L) and the radon readings at both locations are significantly different ($p<0.05$) where the brick factory's office have a higher mean rank (21.50) and sum rank (301.00) than the quarry's office. Overall, the status of the indoor radon reading is not concerning to the staffs' health and are at a safe level.

Keywords: indoor radon, construction materials, alpha radiation

ABSTRACT
(Clinical & Health Sciences)

CHS_1_SARAS

Assessing the Synergistic Potential of *Boerhavia diffusa* and *Orthosiphon aristatus* in Combating Chronic Kidney Disease Using *Insilico* Methods

Saraswathi S[1], Meghana Ramya M[1], Essakiammal V[1],Gayathri Devi S[1,*]

[1]Department of Biochemistry, Biotechnology & Bioinformatics Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641043, India.

*Author for Correspondence: gayathridevi_bc@avinuty.ac.in

Abstract

Background: Chronic Kidney Disease (CKD) is a major health issue impairs renal function was estimated to be 843.6 million individuals affected globally. The current treatment in Modern medicine involves Renal replacement therapy which includes dialysis and kidney transplantation and also synthetic drugs used in the management of CKD includes beta-blockers, angiotensin-converting enzyme inhibitors (ACEis), sodium/glucose cotransporter 2 (SGLT2) mineralocorticoid-receptor antagonists, anti-inflammatory, H2-blockers, statins, anti-fibrotic and cardiovascular drugs. Due to its severe side effects and high cost, Indian medicinal plants being an option as complementary and an alternative medicine. This study explores the synergistic potential of two medicinal plants, *Boerhavia diffusa* and *Orthosiphon aristatus* combating CKD involves *insilico* analysis using molecular docking. Method: The goal was to identify and analyze the properties of various phytocompounds in these plants to see if they could effectively interact with target proteins associated with CKD. Swiss ADME software was used to evaluate 152 plant compounds for their pharmacokinetic properties, then conducted molecular docking with PyRx to predict how well these compounds bind to five specific proteins linked to CKD: GLP1, SGLT2, NF-KAPPA-B P52, Galectin 3, and TGF-beta 1. The compounds showing the best binding interactions were further studied using Discovery Studio for detailed binding energy and interaction analysis. Findings: Resulted phytocompounds like Masilinic acid, Boeravinone C, Hederagenin, Boeravinone F and Boeravinone B had strong binding affinities, with binding scores between -7.4 and -9.9 kcal/mol, even better than conventional CKD drugs. These compounds formed stable and multiple bonds with the target proteins, indicating this lead compounds might be effective option in alleviating CKD. Conclusion: Moving forward, further investigations are needed to validate our lead compounds using molecular simulation, clinical and preclinical studies

Keywords: Chronic Kidney Disease, molecular docking, ADMET analysis, phytocompounds, protein binding.

CHS_2_NADBA

Survival Probabilities of Children with Retinoblastoma in Malaysia: A Retrospective Cohort Study

Nor Aizura Zulkifli[1,2,*], Nyi Nyi Naing[1], Nadiah Wan-Arfah[3], Syaratul Emma Hashim[1], Ismail Shatriah[4,5], Ahmad Sukari Ain-Nasyrah[5], Norhafizah Hamzah[6], Jamalia Rahmat[7], Mohamad Aziz Salowi[8]

[1]Faculty of Medicine, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia
[2]Clinical Research Centre, Hospital Raja Permaisuri Bainun, Ministry of Health Malaysia, Ipoh, Perak, Malaysia
[3]Faculty of Health Sciences, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia
[4]Department of Ophthalmology and Visual Science, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia
[5]Ophthalmology Clinic, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan, Malaysia
[6]Department of Pediatric Ophthalmology, Hospital Tunku Azizah, Kuala Lumpur, Malaysia
[7]Department of Ophthalmology, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia
[8]Department of Ophthalmology, Hospital Selayang, Batu Caves, Malaysia

*Author for Correspondence: *noraizura.zulkifli@gmail.com*

Abstract

Background: Retinoblastoma can cause eyesight loss and mortality if left untreated. Research into survival probabilities for retinoblastoma in Malaysia is currently scarce. This study examined 1-year, 3-year, and 5-year survival probabilities and compare the overall survival by various factors of retinoblastoma children in Malaysia. Methods: A retrospective cohort study was conducted on children diagnosed with retinoblastoma who were registered in institutions with pediatric ophthalmology services in Malaysia from January 2004 to April 2023. The Kaplan-Meier estimator was employed to evaluate the overall survival probabilities of retinoblastoma children at 1-year, 3-year, and 5-year intervals. Furthermore, the log-rank test was employed to investigate variations in survival probabilities among different groups. Findings: The study consisted of 402 children diagnosed with retinoblastoma, who were enrolled in the Retinoblastoma Registry of the National Eye Database in Malaysia and provided their medical records through a standardized data collection form. The study period resulted in the deaths of 22 children. The analysis revealed that the 1-year, 3-year, and 5-year survival probabilities were 96.1% (95% CI: 93.4-97.7), 94.5% (95% CI: 91.3-96.6), and 92.6% (95% CI: 88.7-95.2), respectively. Survival times were substantially affected by children who had extraocular extension (P=0.047) and underwent enucleation (P=0.004). Conclusion: This study presents significant insights into the survival probabilities of retinoblastoma children in Malaysia, indicating that there are high survival rates at the 1-year, 3-year, and 5-year intervals. The significance of early detection strategies and close monitoring was underscored by the significant differences in survival time observed concerning extraocular extension and enucleation.

Keywords: retinoblastoma, survival probabilities, Malaysia, diagnosis

CHS_3_SBMPQ

Gene Expression Analysis of JAK/STAT and PI3K/AKT Pathways in Chronic Myeloid Leukemia Mice Treated with Thymoquinone

Nur Anis Ashiela Mohd Amiludin[1], Wan Rohani Wan Taib[1,*], Hamid Ali Nagi Al-Jamal[1], Hanan Kamel M. Saad[1], Fouad Saleih Resq Al-Suede[2]

[1] School of Biomedicine, Faculty of Health Sciences, Universiti Sultan Zainal Abidin (UniSZA), Terengganu 21300, Malaysia
[2] EMAN Biodiscoveries Sdn. Bhd., A1-4, Halal Park, 08000 Sungai Petani, Kedah, Malaysia

*Author for Correspondence: *wanrohani@unisza.edu.my*

Abstract

Background Chronic myeloid leukemia (CML), which is positive for the BCR-ABL1 gene, is a type of myeloproliferative neoplasm characterized by the excessive growth of granulocytes. It is caused by a specific genetic abnormality known as the Philadelphia chromosome. This condition can lead to hyperactivation of few signalling pathways such as JAK/STAT and PI3K/AKT signalling pathways. Imatinib mesylate (IM), a small molecule inhibitor of the BCR/ABL kinase, is highly efficacious in the treatment of leukemia. Nevertheless, the efficacy is transient and medication resistance emerges with continued treatment. Thymoquinone, one of the active components of *Nigella sativa* have the potential to reduce this hyperactivation. Methods Athymic nude mice were divided into 4 groups which consist of control group, positive control treated with imatinib group, low dose thymoquinone treated group and high dose thymoquinone treated group. The mice were selected based on their age and weight. Mice that aged between 4-6 weeks with weight 25g were selected in this study. The tumour mass from the mice was extracted for RNA and proceeded to RT-qPCR analysis for 6 genes involved in JAK/STAT and PI3K/AKT signalling pathways assigned as STAT3, STAT5A, STAT5B, JAK2, PI3K and AKT genes with beta-actin gene used as housekeeping gene. Kruskal Wallis Test was used using IBM SPSS software with p values less than 0.05 considered to indicate statistically significant. Findings All genes related to the JAK/STAT pathway which are STAT3, STAT5A, STAT5B and JAK2 exhibited significant downregulation with p value of <0.001, <0.05, <0.05, <0.05, respectively on high dose group treated with thymoquinone as compared to other groups. The expression of PI3k and AKT genes from PI3K/AKT pathway also demonstrated downregulation with P value of <0.05 and <0.05, respectively. Conclusion In vivo studies of leukemia have shown positive outcomes of thymoquinone as potential treatment targeting JAK/STAT and PI3K/AKT signalling pathways.

Keywords: Thymoquinone, JAK/STAT, PI3K/AKT, Chronic Myeloid Leukemia, Mice Model

CHS_4_QSUED

Antioxidative Properties of Methanolic and Aqueous Extracts of *Mitragyna speciosa* Leaves: A Comparative Analysis

Nur Asyiera Amiruddin[1], Asheila Meramat[2,*], Che Ku Dahlan Che Ku Daud[3], Wan Rohani Wan Taib[1]

[1] Department of Biomedical Science, Faculty of Health Science, Universiti Sultan Zainal Abidin, Medical Campus, Jalan Sultan Mahmud, 20400 Kuala Terengganu, Terengganu Darul Iman, Malaysia
[2] Department of Basic Medical Sciences, Faculty of Medicine & Health Sciences, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia
[3] Discipline of Basic Health Sciences, Pharmacology and Toxicology, Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu Darul Iman, Malaysia

*Author for Correspondence: masheila@unimas.my

Abstract

Background: *Mitragyna speciosa* is a known natural source that is commonly used among the locals for medical and social uses, despite it commonly being associated with drug abuse and health hazards with prolonged use. This study was focused on the antioxidant activity of *Mitragyna speciosa* located in Kuala Terengganu as phytocomplexes content of *Mitragyna speciosa* tends to vary according to environmental factors. The main objectives were to evaluate antioxidant activities by Ferric Reducing Antioxidant Power (FRAP) and 2,2-diphenylpicrylhydrazyl (DPPH) assays, as well as the phytochemical screening of total phenolics and flavonoids content present in methanolic and aqueous *Mitragyna speciosa* leaf extracts. Methods: FRAP assay was performed for the extracts' iron-reducing capacity, whereas DPPH assay was performed to assess their free radical scavenging activity. Total phenolic content was determined using the Folin–Ciocâlteu method, whereas Aluminium Chloride method was for total flavonoid content. Each extract was diluted into three concentrations 1:5, 1:10, and 1:30. Findings: 1:5 methanolic extract had the highest FRAP value (11.14 µmol Fe (II)/g) and phenolic and flavonoid compounds (7572.08 mg GAE/g, 6909.56 mg QRE/g) respectively, with a low IC_{50} value (2.06 µg/mL). This differed with 1:5 aqueous extract with the lowest FRAP value (1.65 µmol Fe (II)/g) and phenolic and flavonoid compounds (7168.33 mg GAE/g, 568.00 mg QRE/g) respectively, with a high IC_{50} value (5.50 µg/mL). Conclusion: Methanolic extracts exhibited a higher antioxidant activity compared to aqueous extracts. Hence, *Mitragyna speciosa* can possibly be used as a natural source for treating various maladies due to its potent antioxidant activities.

Keywords: *Mitragyna speciosa*, Antioxidant, FRAP, DPPH, Phenolic, Flavonoid.

CHS_5_DWXZH

Molecular Docking Analysis of Bioactive Compounds from *Melaleuca Cajuputi* Subspecies Cumingiana Essential Oils as Dengue Virus Serotype 2 Ns1 Protein Inhibitors

Ahmad Khalis Yahya[1], Noor Zarina Abd Wahab[1,*]

[1]School of Biomedicine, Faculty of Health Sciences, Universiti Sultan Zainal Abidin, 21300 Kuala Nerus, Terengganu, Malaysia

*Author for Correspondence: zarinawahab@unisza.edu.my

Abstract

Background: Dengue fever has emerged as a big threat to human health since the last decade owing to high morbidity with considerable mortalities. The proposed study aims at the *in-silico* investigation of the inhibitory action against DENV2-NS1 of phytochemicals from *Melaleuca cajuputi* subsp. *cumingiana* essential oils, a local medicinal plant of Malaysia. Non-Structural Protein 1 of Dengue Virus 4 (DENV4-NS1) is known to be involved in the replication and maturation of virus in the host cells. Methods: An in silico molecular docking was performed using Autodock 4.2.6 to investigate the molecular interactions between protein inhibitors, comprising 10 bioactive compounds of *Melaleuca cajuputi* subsp. *cumingiana* essential oils namely copaene (1), α-eudesmol (2), α-ylangene (3), bulnesol (4), guaia-9,11-diene (5), α-amorphene (6), γ-muurolene (7), alloaromadendrene (8), caryophyllene (9), and guaiol (10), against the NS1 protein from dengue virus serotype 2 (DENV-2). Findings: The protein inhibitors 1 showed the lowest binding energy (-7.05 kcal/mol), followed by 2 (-6.97 kcal/mol), 3 (-6.86 kcal/mol), 4 (-6.85 kcal/mol), 5 (-6.81 kcal/mol), 6 (-6.67 kcal/mol), 7 (-6.63 kcal/mol), 8 (-6.62 kcal/mol), 9 (-6.59 kcal/mol), and 10 (-6.57 kcal/mol), which indicating good inhibition interaction towards NS1 (≤ -6.0 kcal/mol were selected as potential inhibitors for DENV2-NS1). Structural analysis showed most of the compounds interacted with Lys339 with alkyl interaction, while compound 2 and 10 showed conventional hydrogen bond with Trp210, and compound 4 showed conventional hydrogen bond with Thr309 and Glu310, showing effective drug-likeness. Conclusion: It is concluded that the screened 10 phytochemicals have strong inhibition potential against DENV-2. Further studies are needed as the development of these phytochemicals as potential drugs for DENV would be therapeutically and economically beneficial.

Keywords: Bioactive compounds, DENV-2, NS1, *Melaleuca cajuputi* subsp. *cumingiana*

CHS_6_JFFSX

Examining the Link Between Pain Perception and Cognitive Performance in Primary Knee Osteoarthritis

Mazira Mohamad Ghazali[1,2], Samhani Ismail[1,*], Muhammad Rajaei Ahmad@ Mohd Zain[3], Jafri Malin Abdullah[2], Mohd Hanifah Jusoh[3]

[1]Department of Anatomy and Physiology, Faculty of Medicine, Universiti Sultan Zainal Abidin (UniSZA), Medical Campus, Jalan Sultan Mahmud, 20400, Kuala Terengganu, Terengganu, Malaysia
[2]Department of Neurosciences, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia
[3]Department of Orthopaedic, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kubang Kerian, Kelantan, Malaysia

*Author for Correspondence: samhanismail@unisza.edu.my

Abstract

Background: Sensation of pain is influenced by a multifactorial nature beyond tissue damage. A mutual relationship between chronic pain and cognitive alteration has been repeatedly reported. This study aims to evaluate the associative factors that contribute to pain perception in individuals with knee osteoarthritis (KOA). Methods: A total of sixty-two subjects of primary KOA attending the Orthopaedics Clinic, Hospital Universiti Sains Malaysia, and healthy subjects complying with inclusion and exclusion criteria were recruited. Upon obtaining approval from ethical committee from Universiti Sultan Zainal Abidin and Universiti Sains Malaysia, data were collected, comprised of pain measurements of Short-Form McGill Pain Questionnaire 2 (SF-MPQ2), Numeric Rating Scale (NRS) score, and cognitive evaluation test from Wechsler Adult Intelligence Scale (WAIS-IV) containing Perceptual Reasoning (PRI), Working Memory (WMI), and Processing Speed (PSI). Pearson correlation and principal component analysis with varimax rotation followed the aftermath. Results: Kellgren-Lawrence (KL) radiological assessment showed 50.0% were at Grade 0 (healthy), and 50% had KOA with varying severity from Grade I (22.6%), Grade II (12.9%), and Grade III (14.5%). Among the pain types examined, the correlation between continuous pain (constant, ongoing pain) and affective pain (emotional response to pain, such as anxiety or depression) is the highest. This means that these two types of pain are more closely related to each other than any other pair of pain types. KL-Grade showed a significant correlation with NRS (r_p=0.660, $p<0.01$) and SF-MPQ2 (r_p=0.705, $p<0.05$) which suggest higher intensity of pain in higher KOA severity. PCA output revealed two significant PCs extracted from variables with eigenvalues greater than 1. The PSI displayed a strongly positive correlation, suggesting it is the most cognitive component to be compromised due to KOA, followed by the WMI. Conclusion: This study proposes that cognitive decline is prevalent among chronic pain patients, particularly those with KOA, suggesting the need for a holistic management approach that addresses both physical and cognitive health.

Keywords: knee osteoarthritis, cognitive performance, pain assessment, demographic factors

CHS_7_QUCWT

Body Mass Index and Its Association with Bi-Rads Density Distribution and Potential Breast Cancer Risk in Women from Terengganu and Kelantan

Nur Ellyanis Ab Rasid[1], Kamarul A Abdullah[1,2,*], Fairuz Mohd Nasir[1], Nadiah Wan-Arfah[1]

[1]Faculty of Health Sciences, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Nerus, Terengganu, Malaysia
[2]Department of Radiology, University of Cambridge School of Clinical Medicine, Box 218, Level 5, Cambridge Biomedical Campus, Cambridge, CB2 0QQ, UK

*Author of Correspondence: *kamarulaminab@unisza.edu.my* / *ka602@cam.ac.uk*

Abstract

Breast cancer is one of the leading causes of death worldwide, including in Malaysia. Breast density, among other important risk factors for breast cancer, has gained importance among health experts. BI-RADS, the Breast Imaging Reporting and Data System categorises breast density in mammograms by comparing the amount of fibrous and glandular tissue with the amount of fatty tissue. The aim of this study was to investigate the current BI-RADS distribution in women from Terengganu and Kelantan and its relationship to body mass index (BMI) as a major breast cancer risk factor. A cross-sectional study was conducted from November 2021 to June 2022 at Hospital Sultanah Nur Zahirah (HSNZ) in Terengganu and Hospital Raja Perempuan Zainab II (HRPZ II) in Kelantan. Standardised questionnaires were distributed to 152 asymptomatic women who attended the screening mammography. Demographic details including menopause and the use of hormone replacement therapy (HRT) were recorded. Pearson chi-square and multiple logistic regression were used to analyse the included details against breast density. A total of 152 women, 65.1% were classified as non-dense (BI-RADS A and B), indicating predominantly fatty or scattered fibroglandular tissue and 34.9% were classified as dense (BI-RADS C and D), indicating heterogeneous or extremely dense breast tissue. A significant association was found between BMI and breast density (p=0.02) across menopausal status. However, no associations were found between age, HRT, menopausal status and weight in pre-and postmenopausal women in relation to breast density. This study concludes that BMI has a significant effect on the distribution of breast density in women in Terengganu and Kelantan, with higher BMI being associated with less dense breast density. This finding emphasises the importance of addressing BMI as part of breast cancer screening and prevention strategies in these populations.

Keywords: Screening mammography, breast density, age, body mass index, hormone replacement therapy.

CHS_8_MZJLS

Association of BDNF (Rs6265) with Obesity in Adult Pakistani Population and Its Molecular Docking With Tropomyosin Receptor Kinase B (TrkB)

Faheem Mustafa[1*], Rabiatul Adawiyah Binti Umar[1], Wan Rohani Wan Taib[1], Atif Amin Baig[2]

[1]Faculty of Health Sciences, Universiti Sultan Zainal Abidin (UniSZA), Gong Badak Campus, 21300 Kuala Nerus, Terengganu, Malaysia
[2] International Medical School, Management and Science University, Malaysia

*Author for Correspondence: *faheemmustafa081@gmail.com*

Abstract

Background: A rapid increase in obesity prevalence has been observed in Pakistan. Multiple genetic and environmental factors disrupt energy homeostasis. BDNF regulates energy homeostasis and its polymorphism (Val66Met rs6265) can disrupt energy homeostasis. The study aims to link BDNF rs6265 with body measurements and lipid levels in obese Pakistanis. Methods: A total of 66 obese and 66 control subjects having a BMI ≥25 kg/m² (for obese) and 18.5-22.9 kg/m² (for normal healthy individuals) were included. In-silico analysis of wild and mutant BDNF protein and its receptor TrkB was blind-docked with ClusPro 2.0. Anthropometric data, including weight, height, waist circumference, hip circumference, and neck circumference were measured. A total of 4 ml blood samples were collected. Genotyping analysis of variation in BDNF (rs6265) was determined by using PCR-RFLP. Clinical characteristics of the sample population were expressed as mean ±SD. Statistical analysis was performed by using SPSS 21.0. Findings: Docking results showed that the rs6265 polymorphism in *BDNF* reduced the binding affinity between the BDNF and TrkB. Obese attributes had significantly greater neck circumference ($P<0.05$), body fat percentage ($P<0.05$), and lower high-density lipoprotein ($P<0.05$), as compared to healthy individuals. Significant association was observed between genotypic variation rs6265 and hip circumference, waist circumference, BMI, body fat percentage, and cholesterol ($P<0.05$). The AA genotype in obese subjects had the highest count contributing 56% of the obese samples, followed by GG, having a frequency of 44%. Non-obese subjects revealed the highest frequency (70%) of the GG genotype and 30% of the AA genotype. There was also an apparent significant difference in both allelic ($P<0.005$) and genotypic ($P<0.05$) frequencies between the obese and normal subjects. Conclusion: The docking outcome indicated that the rs6265 polymorphism in *BDNF* decreased the binding affinity between BDNF and TrkB. *BDNF* rs6265 genotypes showed a significant association between obesity and its attributes.

Keywords: Obesity, *BDNF, In-Silico analysis*, Genotyping

CHS_PP_ZSUUZ

Comparative Analysis of Mental Status Among Social Science Students and Technical Students in Terengganu: A Cross-Sectional Study

Nurulumi Ahmad[1,*], Syaimidi Efizy Makhzan[1], Habibah Kamaruzaman[1], Aslinda Jamil[1], Ahmad Kamal Arifin bin Abdul Jamil[1], Umar Idris Ibrahim[1], Lua Pei Lin[1]

[1]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, Universiti Sultan Zainal Abidin (UniSZA), Terengganu Darul Iman, Malaysia

*Author for Correspondence: *numiahmad@unisza.edu.my*

Abstract

Background The transition from high school to higher education involves changes in academic, social, and emotional demands, resulting in physical adaptation. The research is prompted by the increasing awareness of mental health issues among university students globally and the recognition of the potential influence of academic disciplines on mental well-being. This study assess and compare the prevalence of stress, anxiety, depression and general health among students who enrolled in social science and technical courses in Terengganu. Methods. The research adopted a cross-sectional comparative design, focusing on 313 undergraduate students from the Faculty of Business Management (FPP) and the Faculty of Innovative Design and Technology (FRIT) at Universiti Sultan Zainal Abidin (UniSZA). The eligible samples who met the inclusion criteria answered Depression, Anxiety, and Stress Scale-21 (DASS-21) and General Health Questionnaire-12 (GHQ-12) questionnaires. The data was collected through an online. Later they were analayzed using IBM Statistical Package for Social Science (SPSS) version 25.Findings The findings indicate that students enrolled in the Faculty of Business Management (FPP) experience significantly higher levels of stress, anxiety, and depression compared to those in the Faculty of Innovative Design and Technology (FRIT) ($p<0.05$). This is likely due to the differing academic pressures and environments of social science courses versus technical courses. Despite these differences in psychological well-being, there were no statistically significant association between students from both faculties in term of general health. Conclusion This study contributes valuable knowledge and highlighting the need for comprehensive mental health support among students in different academic environments. By addressing these challenges, universities can foster a supportive and healthy academic atmosphere, promoting the well-being and success for all students.

Keywords: Mental status, general health, social science courses, technical courses.

ABSTRACT (Pharmacy & Pharmaceutical Sciences)

PPS_1_FGLCJ

How Do Healthcare Professionals Perceive the Utilization of Complementary and Alternative Therapies (Cats) for Epilepsy

Nik Liana A Samat[1], Shazia Jamshed[2], Long Chiau Ming[3], Ahmad Kamal Ariffin Abdul Jamil[1], Nurulumi Ahmad[1], Aslinda Jamil[1], Kheng Seang Lim[4], Mazlina Husin[5], Khairul Azmi Ibrahim[5], Norshima Humaidi[5], Sulaila Basiam[6], Saidatul Manera Mohd Daud[7] and Lua Pei Lin[1]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin (UniSZA), Kampus Besut, 22200 Besut, Terengganu, Malaysia
[2]School of Pharmacy, International Medical University (IMU), Bukit Jalil, 57000 Kuala Lumpur, Malaysia
[3]School of Medical and Life Sciences, Sunway University, Bandar Sunway, 47500 Selangor Darul Ehsan, Malaysia
[4]Faculty of Medicine, University of Malaya, Lembah Pantai, Wilayah Persekutuan, 50603 Kuala Lumpur, Malaysia
[5]Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 20400 Kuala Terengganu, Terengganu, Malaysia
[6]Hospital Tengku Ampuan Afzan, Jalan Tanah Putih, 25100 Kuantan, Pahang, Malaysia
[7] Hospital Raja Perempuan Zainab II, Bandar Kota Bharu, 15586 Kota Bharu, Kelantan, Malaysia

*Author for Correspondence: *peilinlua@unisza.edu.my*

Abstract

This study aimed to identify the perceptions of healthcare professionals on the CATs utilization and its related experiences while managing patients with epilepsy (PWEs). A focus group interview was conducted with three neurologists and two pharmacists. Two neurologists (male=1, female=1) were from a public university in Kuala Lumpur and one neurologist (female) was from a private hospital in Kuala Lumpur. Another two pharmacists (both females) were from the same Kuala Lumpur public university. Using content analysis, three themes emerged: healthcare professionals' perceptions on CATs usage in epilepsy management, factors influencing CAT choice and its impact on anti-epileptic drugs (AEDs) adherence. The results highlighted healthcare professionals' general approval of physical-based CAT modalities like mindful breathing, massage, and yoga, while expressing less agreement on the use of herbal or ingested supplements. Among the reasons for preferring physical CAT approaches included their positive impact on emotional well-being (e.g. prayers, exercise). On the other hand, for ingested products the main concerns were reduced AED efficacy, drug contraindications and the possible presence of harmful extracts. However, they did not object to the use of supplements like multivitamins and fish oil for overall health maintenance. Despite acknowledging the potential benefits of CATs, none of the healthcare professionals had directly recommended CAT modalities to PWEs. Additionally, they reported that CAT practices were often influenced by family or friends, particularly for PWEs who caregiver dependent are. Furthermore, AEDs' adverse effects and uncontrolled seizure have caused some PWEs to turn to CATs. As a result, a correlation between CATs usage and non-adherence to AED therapy among PWEs was noted. The study emphasized the need for further research and education to ensure the safe and effective integration of CAT practices into epilepsy management protocols.

Keywords: complementary and alternative therapies, epilepsy, healthcare professionals

PPS_2_XVGXQ

Community Pharmacists' Knowledge About Women's Issues in Epilepsy: Addressing the Factors Influencing the Knowledge Gap for Improved Pharmaceutical Care

Umar Idris Ibrahim[1], Shazia Jamshed[2], Siti Irdina binti Saharil[1,*]

[1]Faculty of Pharmacy, University Sultan Zainal Abidin, Besut Campus, Terengganu Darul Iman, Malaysia,
[2]International Medical University, Kuala Lumpur, Malaysia

*Author for Correspondence: *sitiirdina79@gmail.com*

Abstract

Background: There is a noticeable lack of proactive pursuit of additional skill training or continuous education on epilepsy management among many pharmacists. This gap is particularly pronounced when it comes to addressing the unique needs of female patients. Objective: To assess the community pharmacists in Peninsular Malaysia towards women's health issues in epilepsy involving the medication management. Method: A cross-sectional study by using a semi structured questionnaire was conducted among 73 community pharmacists in Peninsular Malaysia through online distribution by emails and personal contacts. The questionnaire includes two parts; eight questions about the demographics of the study participants and 12 questions about the participants' knowledge of women's issues in epilepsy. Data analysis was conducted by using Statistical Software for Social Sciences (SPSS) Version 25. Results: A total of 73 community pharmacists in Peninsular Malaysia were recruited in this research study. The overall level of understanding and knowledge among the respondents was "good" (n=39, 53.4%) while some of the respondents showed "poor" level of knowledge (n=34, 46.6%) towards women's issues with epilepsy. The multivariate analysis showed that among 5 demographic parameters investigated, the parameter "trained on epilepsy and antiepileptic drugs" has the highest score (p-value<0.05, CI: 0.559,0.888) which can be the main factor influencing level of knowledge among community pharmacists on women issues with epilepsy. Conclusion: The obtained result suggests further educational and training programs to be implemented among the community pharmacists. More intense and thorough exposure towards the proper management for women with epilepsy would enhance knowledge and competence among community pharmacists thus improving Malaysia's pharmaceutical care service.

Keywords: Epilepsy, women, antiepileptic medications, community pharmacists

PPS_3_FXWJG

Assessment of Knowledge, Attitude and Practice of Unused and Expired Pharmaceutical Products Among Undergraduate Students

Umar Idris Ibrahim[1], Ahmad Kamal Ariffin Bin Abdul Jamil[1], Lee Le Hern[1,*]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Campus Besut, Terengganu Datul Iman, Malaysia.

*Author for Correspondence: *lehern0105@gmail.com*

Abstract

Background: Concerns had been raised about the inappropriate disposal of unwanted and expired medications in many nations since the waste ended up in the ecosystem and posed a risk to the environment, wildlife, and human health. Objectives: This research aimed to explore the knowledge, attitude, and practice of undergraduate students in Universiti Sultan Zainal Abidin (UniSZA) towards safe disposal of unused and expired pharmaceutical products. Methods: A cross-sectional study using a structured questionnaire was conducted over 6 months among 395 students from UniSZA, Terengganu. The questionnaire covered questions about the knowledge, attitudes, and practice regarding the proper disposal of used and expired medications. It was distributed to the respondents via Google Form link in WhatsApp, Telegram, and Instagram. Periodic reminders were sent to ensure a good response. The statistical software for social sciences (SPSS) version 25 was used to analyse the data. Results: Majority of 330 (83.5%) the respondents knew about pharmaceutical waste. Around half (199 (50.4%)) of the respondents had a “fair” knowledge level about unused and expired medicine disposal while 357 (90.4%) of the respondents had a “good” attitude towards unused and expired medicine disposal. Significant difference was found between the mean knowledge score of male and female (p-value = 0.016). Slightly higher mean knowledge score of 3.37 (SD ±1.148) was obtained from respondents from science-based faculties than the respondents from nonscience-based faculties (3.03 (SD ±1.404). The difference was not statistically significant (p-value was 0.087). Conclusions: Awareness and positive attitude towards unused and expired pharmaceutical products disposal were shown among the respondents. However, lacking appropriate disposal methods for these products should be overcome by organizing educational initiatives, campaigns, and other programmes among UniSZA students.

Keywords: Pharmaceuticals, Disposal practice, Unused, Expired, Knowledge.

PPS_4_GZCBW

Knowledge of Diabetic Kidney Disease (Dkd) Among Undergraduate Medical & Pharmacy Students

Nursyamimi Izzati Suhaimi[1,*], Ahmad Kamal Ariffin[1], Nur Syazwina Huda Rosli[1], Nur Dania Najihah Mohd Hamede[1]

[1] Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia

*Author for Correspondence: *nursyamimi.izzati02@gmail.com*

Abstract

Background Diabetic kidney disease (DKD) is a common complication of diabetes and a leading cause of chronic kidney disease. DKD increases the risk of cardiovascular disease by 20-40 times, substantially increasing morbidity and mortality among diabetes patients. Even though the occurrence of DKD among diabetes patients has grown, there is still a lack of knowledge regarding DKD among healthcare students as future healthcare professionals, particularly in Malaysia. This study aims to evaluate the knowledge of DKD among undergraduate medical and pharmacy students at Universiti Sultan Zainal Abidin (UniSZA) and Universiti Kuala Lumpur Royal College of Medicine Perak (UniKL RCMP). Methods An online survey was conducted among undergraduate medical and pharmacy students, with 50 student responses available for analysis. The survey assessed the students' knowledge of DKD through structured and validated questions. Findings The study revealed that undergraduate medical and pharmacy students demonstrated a moderate level of knowledge regarding DKD, with pharmacy students performing better than medical students. The mean score for knowledge of DKD was 13.90 ± 2.87, indicating a relatively higher level of knowledge than previous studies. The mean score knowledge for medical students was 13.00 while the mean score knowledge for pharmacy students was 14.45. Conclusion The findings revealed that undergraduate medical and pharmacy students have moderate knowledge of DKD. The findings also highlight the need to enhance DKD education among future healthcare professionals and suggest a potential for curriculum adjustments in healthcare-related courses. The study provides valuable insight into the current state of DKD knowledge among undergraduate students.

Keywords: diabetic kidney disease, diabetic nephropathy, medical students, pharmacy students and undergraduate

PPS_5_ASYMC

Retrospective Analysis of Prescribing Trends and Prescribing Errors Among Medical Doctors at Hospital Sultan Zainal Abidin (Hosza)

Nur Dania Najihah Mohd Hamede[1,*], Ahmad Kamal Ariffin[1], Nursyamimi Izzati Suhaimi[1], Nur Syazwina Huda Rosli[1]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu, Malaysia

*Author for Correspondence: *danianajihah06@gmail.com*

Abstract

Background In Malaysia, prescription error was reported as the most common medication error with 2,878 cases accounted for 51%. Irrational prescribing trends of drugs has demonstrated various adverse effects including development of antimicrobial resistance (AMR), financial burden towards patients, and prolonged treatment. There is a lack of prescribing trends analysis conducted in hospital settings of Malaysia. This study aims to analyse the prescribing trends of medications based on age range, gender, number of medications per prescription, diseases of patients, and therapeutic class of drugs. Methods This is a retrospective, cross-sectional study in which prescriptions from the Outpatient Pharmacy Department (OPD) of Hospital Sultan Zainal Abidin (HoSZA) from July 2023 until December 2023 was collected. Results Most of the medications were prescribed for allergic rhinitis, acute pain and eye infections. Meanwhile, the most frequently prescribed medications belong to the therapeutic classes of NSAIDs, short-acting opioid analgesics, and antihistamine. On the other hand, the six types of prescribing errors identified were wrong dose, wrong frequency, wrong duration, inappropriate medication, wrong dosage form, and polypharmacy. Conclusion Most of the medications was prescribed for allergic rhinitis, acute pain, and eye infections. Meanwhile, the therapeutic class of drugs commonly prescribed were NSAIDs, short-acting opioid analgesics, and antihistamine. Next, the types of prescribing errors identified were wrong dose, wrong frequency, wrong duration, inappropriate medication, wrong dosage form, and polypharmacy. The result also showed there was no association between the number of prescribing errors and diseases of patients.

Keywords: prescribing trends, prescribing errors

PPS_6_TRQNY

Development and Validation of Rheumatoid Arthritis (RA) Pamphlet

Nur Syazwina Huda Rosli[1,*], Ahmad Kamal Ariffin[1], Nur Dania Najihah Mohd Hamede[1], Nursyamimi Izzati Suhaimi[1]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, 22200 Besut, Terengganu Darul Iman, Malaysia

*Author for Correspondence: *syazda02@gmail.com*

Abstract

Background Rheumatoid Arthritis (RA) is an autoimmune condition in which the body's immune system unintentionally targets healthy cells, leading to severe swelling. Complications arise if RA is not treated, including inflammation, joint damage, and cardiovascular disease, leading to a reduced quality of life. Studies have reported that RA patients have low drug adherence rates (30-80%), due to a lack of knowledge. Objective: The study aims to develop and validate an educational pamphlet on RA. Methods This study involved three phases. In Phase I, a development questionnaire with 10 proposed items was sent to 13 experts who work directly with RA patients. Phase II involved the design and construction of the pamphlet. In Phase III, 10 experts validated the fully developed pamphlet through a questionnaire with 2 sections: Face Validity and Content Validity. Results In Phase I, all proposed items were included in the pamphlet except for the diagnosis of RA, which had a mean score of 2.92. For Phase III, the Item-level Face Validity Index (I-FVI) obtained for each item ranged from 0.8 to 1. The Scale-level Face Validity Index Averaging (S-FVI/Ave) and Scale-level Face Validity Index Averaging Universal (S-FVI/UA) obtained were 0.91 and 0.29, respectively. Meanwhile, the Item-level Content Validity Index (I-CVI) obtained for each item ranged from 0.9-1. The Scale-level Content Validity Index Averaging (S-CVI/Ave) and Scale-level Content Validity Index Averaging Universal (S-CVI/UA) obtained were 0.94 and 0.55, respectively. Conclusion All indices achieved a satisfactory level except for the S-FVI/UA and S-CVI/UA. Despite these shortcomings, the scale-level FVI and CVI were acceptable based on the obtained S-FVI/Ave and S-CVI/Ave scores.

Keywords: rheumatoid arthritis, educational pamphlet, development

PPS_7_UTAWT

A Study on Knowledge, Attitude, and Practice Towards Disaster Medicine Preparedness and Readiness by Community Pharmacists in Kelantan, Malaysia

Aslinda Jamil[1], Nur Alia Nasiha Mohd Fakarudin[1], Lua Pei Lin[1], Shazia Jamshed[1]

[1] Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, Terengganu Darul Iman, Malaysia

*Author for Correspondence: aslindajamil@unisza.edu.my

Abstract

Background: In recent years, the frequency and severity of natural and man-made disasters have escalated, presenting significant challenges to human lives, livelihoods, and sustainable development. Malaysia has experienced a range of disasters over the past several decades, both natural and anthropogenic, resulting in loss of life, property damage, and economic hardship. In Kelantan, floods are an annual occurrence. Community pharmacists, as frontline healthcare providers, frequently serve as the initial point of contact for individuals seeking medical advice and services. During disasters, community pharmacists play crucial roles in managing drug supply chains, providing essential health information, and supporting public health initiatives. This study aims to assess the knowledge, attitude, and practice (KAP) towards disaster medicine preparedness and readiness among community pharmacists in Kelantan and to compare the mean KAP scores between different groups based on years of experience and locations of the retail settings. Methods: In this cross-sectional study, a validated questionnaire was administered online via google form and by face-to-face. Data analysis was performed using SPSS Version 26. Findings: The average scores for KAP were 53.8%, 71.37%, and 62.25%, respectively (n = 72). The results showed no significant differences between the mean KAP scores by the pharmacists' years of experience or locations of the retail settings. The study also found that there was a positive correlation between knowledge scores and practice scores ($p<0.05$). Conclusion: Community pharmacists in Kelantan exhibit a moderate level of knowledge, attitude, and practice concerning disaster medicine preparedness and readiness. Continuous professional development is essential for community pharmacists to enhance their competencies in this area. It is recommended that the government provides ongoing education programs to further improve the capabilities of community pharmacists in disaster management.

Keywords: disaster medicine, preparedness, readiness, community pharmacist

PPS_8_NPVRF

Knowledge, Attitude and Perception Towards Epilepsy Among Unisza Staff: A Cross-Sectional Study

Wan Muhammad Syafiq Bin W Mohd Nazar Noor [1,*], Pei Lin Lua[1], Umar Idris Ibrahim[1], Chiau Ming Long[2], Shazia Jamshed[3,4,5]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin, Besut Campus, Terengganu, Malaysia
[2]School of Medical and Life Sciences, Sunway University, Sunway City, Malaysia
[3]International Medical University, Kuala Lumpur, Malaysia
[4]Department of Pharmacy Practice, Faculty of Pharmacy, Jinnah Women University, Karachi, Pakistan
[5]Shifa College of Pharmacy, Shifa Tameer Millat University, Islamabad, Pakistan

*Author for Correspondence: *061147@putra.unisza.edu.my*

Abstract

Background: Epilepsy, a chronic brain condition affecting individuals of all ages, is prevalent in Malaysia at a rate of 7.8 per 1000 persons. Aim: This study aimed to assess the knowledge, attitudes, and perceptions of epilepsy among UniSZA staff. Methods: Conducted from February to June 2023, the questionnaire-based survey involved 116 respondents, with a 94.31% response rate. Findings: Science-based lecturers exhibited higher knowledge levels (mean = 13.45) compared to nonscience-based lecturers (mean = 11.91), a statistically significant difference ($p < 0.05$). Additionally, lecturers showed greater knowledge (mean = 12.61) than management staff (mean = 9.55), with a significant difference in attitudes ($p < 0.05$). Despite these variations, both groups demonstrated a fair knowledge level about epilepsy. Notably, female staff exhibited a more positive perception of epilepsy (mean = 4.06). Conclusion: The study emphasises the necessity for enhanced awareness and understanding of epilepsy, as lingering negative attitudes and stigma highlight a knowledge gap among respondents. Overall, the majority displayed a moderate knowledge level regarding epilepsy.

Keywords: epilepsy, knowledge, attitude, perception, staff

PPS_PP_FGLCJ

Complementary and Alternative Medicine (Cam) Usage Among Epilepsy Patients: A Narrative Review

Nik Liana A Samat[1], Shazia Jamshed[2], Long Chiau Ming[3], Ahmad Kamal Ariffin Abdul Jamil[1], Nurulumi Ahmad[1], Aslinda Jamil[1], Kheng Seang Lim[4], Mazlina Husin[5], Khairul Azmi Ibrahim[5], Norshima Humaidi[5], Sulaila Basiam[6], Saidatul Manera Mohd Daud[7] and Lua Pei Lin[1]

[1]Faculty of Pharmacy, Universiti Sultan Zainal Abidin (UniSZA), Kampus Besut, 22200 Besut, Terengganu, Malaysia
[2]School of Pharmacy, International Medical University (IMU), Bukit Jalil, 57000 Kuala Lumpur, Malaysia
[3]School of Medical and Life Sciences, Sunway University, Bandar Sunway, 47500 Selangor Darul Ehsan, Malaysia
[4]Faculty of Medicine, University of Malaya, Lembah Pantai, Wilayah Persekutuan, 50603 Kuala Lumpur, Malaysia
[5]Hospital Sultanah Nur Zahirah, Jalan Sultan Mahmud, 20400 Kuala Terengganu, Terengganu Darul Iman, Malaysia
[6]Hospital Tengku Ampuan Afzan, Jalan Tanah Putih, 25100 Kuantan, Pahang Darul Makmur, Malaysia
[7]Hospital Raja Perempuan Zainab II, Bandar Kota Bharu, 15586 Kota Bharu, Kelantan Darul Naim, Malaysia

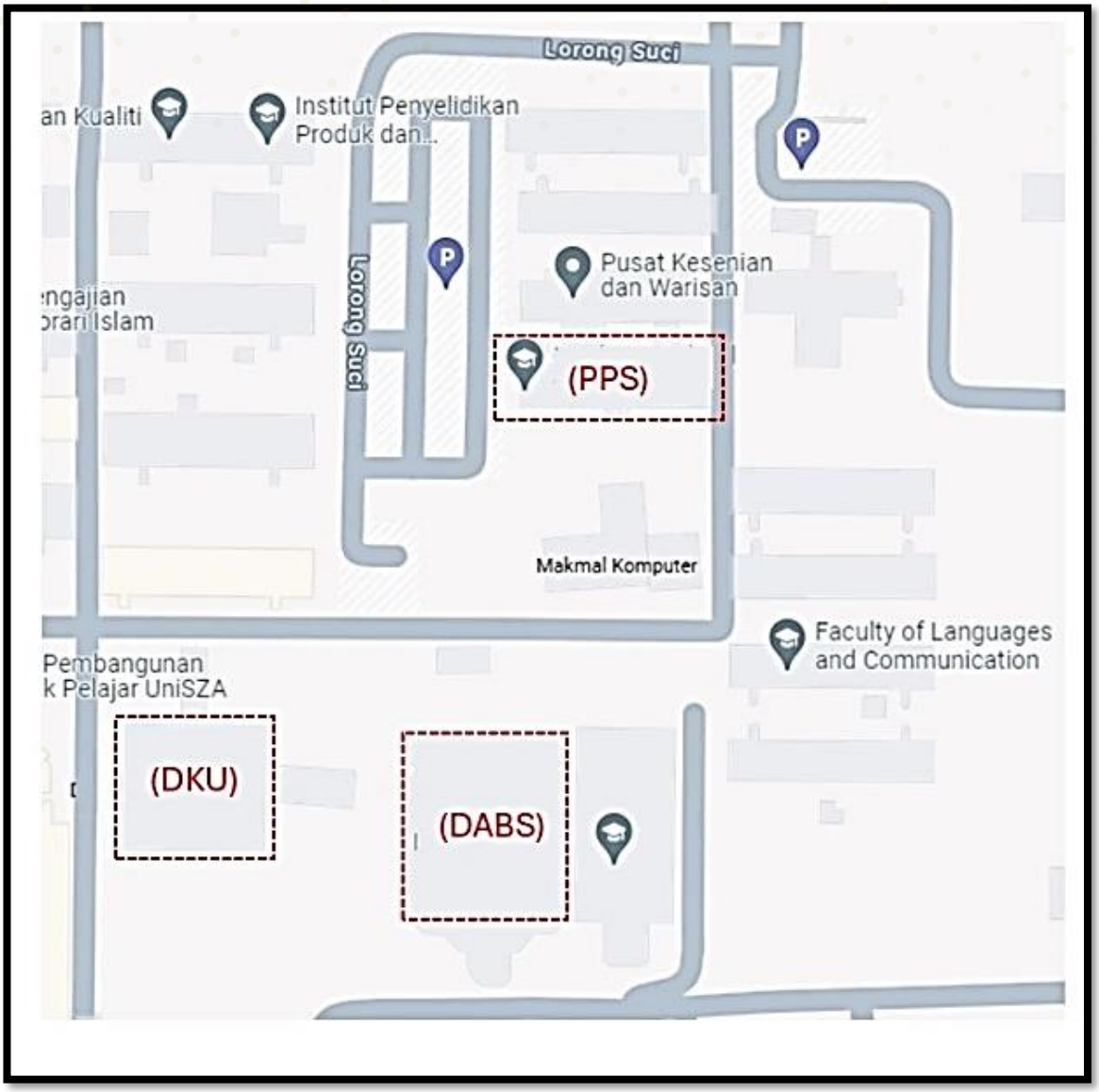
*Author for Correspondence: *peilinlua@unisza.edu.my*

Abstract

Epilepsy is a global health issue, often exacerbated by socioeconomic disparities and limited access to conventional treatments. Economic challenges and the side effects of anti-epileptic drugs (AEDs) have led some people with epilepsy (PWE) to seek complementary and alternative medicine (CAM). This narrative review aimed to identify the prevalence, types of CAM used among PWE, sources of CAM information and reasons for CAM usage. Studies were identified through comprehensive literature searches in three electronic databases (Scopus, ScienceDirect, and PubMed) from 2000 to 2024. The keywords used for relevant article searches were “epilepsy”, “complementary and alternative medicine,” and “patients with epilepsy”. Initially, 964 studies were retrieved, but only 30 studies were included in the final review. The prevalence of CAM usage among PWE varies widely across different countries. Studies show that CAM usage among PWE ranges from 7.5% to 75% worldwide. Commonly used types include herbal medicine, religious or spiritual healing, stress management, homeopathy and massage therapy. The primary sources of CAM information were family, friends, and doctors, with some highlighting the media influence like internet. PWEs or their caregivers opted for CAM due to dissatisfaction with drug effectiveness, side effects, high cost of AEDs, cultural or religious beliefs, influence from others, the perception that CAM is natural and safer, a desire to improve general health, and a willingness to try for seizures. These findings highlight the importance of healthcare practitioners having open discussions about all treatment options, including alternatives to conventional medicine, to help PWE make well-informed decisions.

Keywords: epilepsy, complementary and alternative medicine, patients with epilepsy

4th IPRC 2024 LOCATION MAP



Venue (Please click the links)

Graduate School (PPS):
https://maps.app.goo.gl/NHVvXAYLLvzCBwYc6

DABS:
https://maps.app.goo.gl/jrrA42X14h8Uvr2x5

DKU:
https://maps.app.goo.gl/6F4BqwiWfaQU5Phu9