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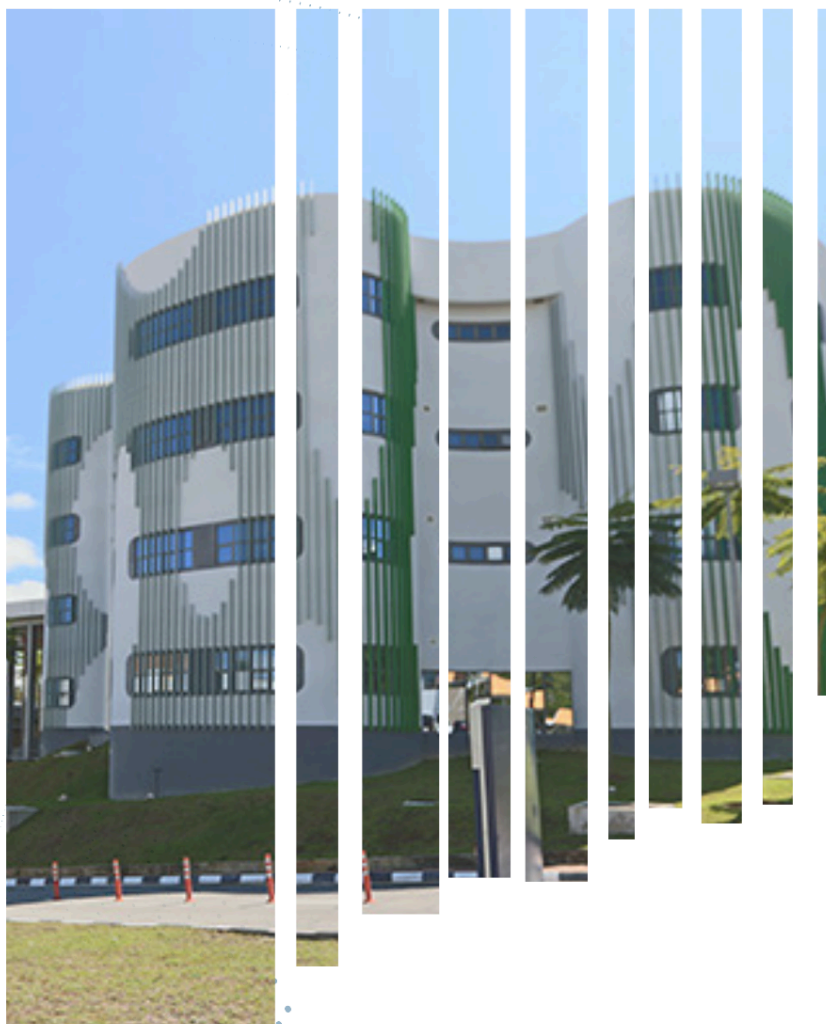
5th

"TRANSFORMING HEALTH: ADVANCING SCIENCE, IMPROVING LIVES"

Annual
Graduate Research Day

Abstract Booklet

23-24 APRIL
2024

ABSTRACT BOOKLET

PAPRSB IHS 5TH ANNUAL GRADUATE RESEARCH DAY

"Transforming Health: Advancing Science, Improving Lives"

Compiled by

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ABOUT GRADUATE RESEARCH DAY

Graduate Research Day stands as a cornerstone event within the academic calendar, representing a vibrant tapestry of scholarly exploration and intellectual exchange. This annual occasion serves as a nexus where the brightest minds in graduate education converge to showcase their pioneering research endeavors, engage in interdisciplinary discourse, and forge connections that transcend disciplinary boundaries. With its emphasis on innovation, collaboration, and academic excellence, Graduate Research Day not only celebrates the achievements of graduate students but also underscores the profound impact of their contributions to the advancement of knowledge in diverse fields. In this introduction, we delve into the essence of Graduate Research Day, highlighting its significance as a catalyst for innovation and a testament to the boundless potential of graduate-level scholarship.

ABSTRACT BOOKLET SUMMARY

Welcome to our research abstracts booklet, a compilation of cutting-edge studies spanning various disciplines and exploring diverse topics within the realm of health sciences. This collection showcases the innovative research endeavors of graduate students from PAPRSB Institute of Health Sciences, Universiti Brunei Darussalam, offering insights into pressing issues, novel methodologies, and emerging trends.

Within these pages, you will find abstracts that explore a wide range of themes, each contributing to our understanding of this year's Graduate Research Day theme, "Transforming Health: Advancing Science, Improving Lives". From investigations into potential anti-cancer particles from leaf extracts, to explorations of the application of telemedicine in caring for patients with life-limiting illnesses, this booklet encapsulates the breadth and depth of contemporary research efforts.

The abstracts presented here are organized into distinct sections, each focusing on a particular aspect or subfield within the health sciences field. Whether you are interested in chronic disease management, genetics and genomics, or medical interventions, you will find a wealth of knowledge and insights to explore.

We invite you to delve into these abstracts, engage with the findings, and contemplate the implications for theory, practice, and future research directions. May this booklet inspire curiosity, spark dialogue, and foster collaboration among researchers and practitioners alike.

Thank you for joining us on this intellectual journey.

GUEST OF HONOUR OPENING SPEECH

It gives me great pleasure in writing this opening message and welcome all of you to the 5th Annual Graduate Research Day organized by the Pengiran Anak Puteri Rashidah Sa'adatul Bolkiah Institute of Health Sciences, Universiti Brunei Darussalam. With the theme "Transforming Health: Advancing Science, Improving Lives", the event aims to celebrate the culmination of research efforts and to share the findings of the research by the graduate students of PAPRSB IHS.

The research presented at these two days' event represent countless hours of dedication, passion and hard work. It is a testament to the students' commitment to pushing the boundaries of knowledge and seeking innovative solutions to the complex challenges facing the healthcare sector.

As we embark on this journey of discovery and learning together, let us remember the profound impact the research can have on society. Each study presented here has the potential to transform health outcomes, advance scientific understanding and ultimately, improve lives.

Let this event be a platform for collaboration, a forum for sharing ideas and a source of inspiration for all of us. Witness the latest breakthroughs and discoveries as the students present their cutting-edge research. Take this opportunity to engage with the future leaders of healthcare and explore the innovative work shaping our field. Let us engage with each other's work with curiosity and openness, seeking to learn from one another and to push the boundaries of our knowledge further. Together, we have the power to make a difference. Let us use this opportunity to forge connections, build partnerships and work towards a common goal of transforming health and advancing science for the betterment of humanity, and inspire each other to reach new heights of excellence.

I would like to congratulate the Organizing Committee for organizing this educational event; I'm sure your efforts in organizing the event will contribute to making it a rewarding experience for everyone involved. For everyone attending this wonderful event, I wish you a productive and enjoyable Graduate Research Day.

PROFESSOR DR KENNETH YUH YEN KOK
Dean
Pengiran Anak Puteri Rashidah Sa'adatul Bolkiah Institute of Health Sciences
Universiti Brunei Darussalam

STUDENT CO-CHAIRS SPEECH

بِسْمِ اللهِ الرَّحْمٰنِ الرَّحِيْمِ
اَلسَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللهِ وَبَرَكَاتُهُ

Greetings fellow researchers

As student co-chairs of the 5th Annual Graduate Research Day, we, Amalie and Nazhirah, would like to extend a warm welcome to each of you. Graduate Research Day is a celebration of the collective efforts and innovative research endeavors within our institute, and this year's theme is, "Transforming Health: Advancing Science, Improving Lives."

The objectives for this research day are: 1) To provide awareness of ongoing research projects across different disciplines, 2) to assess the quality of ongoing research while improving our understanding of our own projects, and 3) To instill discipline in our work. Through oral and poster presentations, we have the opportunity to showcase the diversity and depth of our research endeavors.

However, beyond the presentations lies an invaluable opportunity – the opportunity to network, collaborate, and foster a supportive environment among peers. Let us seize this opportunity to connect, learn from each other, and build lasting relationships that will support us throughout our academic journeys.

We would like to end the message with this encouraging quote:

"Success is not final, failure is not fatal: It is the courage to continue that counts."

Thank you for your participation, and may this research day be a fruitful and enriching experience for us all.

Warm regards,

Amalie Chin Siaw Fang & Siti Nurzaimah Nazhirah binti Haji Zaim
Public Health PhD Candidate & MHSc Nursing Research Student
Student Co-Chairs, 5th Annual Graduate Research Day

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PROGRAMME SCHEDULE

PAPRSB Institute of Health Sciences 5ᵗʰ Annual Graduate Studies Research Day

Venue: LT2 Extension Building at PAPRSB Institute of Health Sciences
Date: Tuesday and Wednesday, 23ʳᵈ - 24ᵗʰ April 2024

**[Day 1] Workshop Programme Schedule	23ʳᵈ April 2024, Tuesday, from 7.30am to 11.45am**	
Time	**Session**
7.30am – 7.45am	Registration Opening and Doa
7.45am – 9.45am	Introduction to the Workshop **Workshop topic:** "Essential Guide to Statistical Analysis with R" conducted by **Dr Hanif Abd Rahman**
9.45am – 10.00am	Q&A session, informal discussion
15-minutes tea break (refreshments are provided)	
10.15am – 11.30am	**Practical exercise:** Quiz, interactive session or group discussion
11.30am – 11.45am	Photo Session Closing remarks

**[Day 2] GRD Programme Schedule	24th April 2024, Wednesday, from 7.30am to 4:30pm**	
Time	**Session**
7.30am – 8.00am	**Registration**
8.00am – 8.15am	Opening Doa Welcoming Speech from Student Chairs (**Amalie Chin Siaw Fang** and **Siti Nurzaimah Nazhirah binti Haji Zaim**)
8.15am – 8.30am	Opening Speech from Guest of Honour: **Professor Kenneth Kok Yuh Yen** Dean of IHS
8.30am – 9.15 am	Keynote Speech by: **Dr Suwarni Hj Md Diah** Deputy Dean for Graduate Studies and Research
9.15am – 9.25am	**Photo Session**

MORNING SESSIONS

Oral Presentations | Morning - Session 1 | 10 minutes presentation - 10 minutes Q &A
Moderated by: Nuryasmin Hj Abu Bakar

Time	Session
9.25am – 9.45am	*In vitro investigation of standardised leaf extract of Morus alba Linn on calcium oxalate kidney stone model: Preliminary findings.* **Amira Asyiqin Binti Abdul Wahab** Main supervisor: Dr Dk Nurolaini Pg Hj Muhammad Kifli
9.45am – 10.05am	*Beyond the Exome: Whole Exome Sequencing of Breast Cancer Identifies High-Quality Germline Variants with Pathogenic Potential in the Off-Target Regions.* **Rina Nurfadlina Rosli** Main supervisor: Dr Lu Zen Huat
10.00am – 10.25am	*Development and Evaluation of Polyherbal Nanoemulsion Mouthwash for Oral Mucositis in Advanced Cancer Patients.* **Norafiqah binti Yusof** Main supervisor: Dr Rajan Rajabalaya
10.25am – 10.45am	*Anticancer potential of silver nanoparticles synthesised from Annona muricata leaf extracts on colorectal cancer.* **Nurul Ashifah Binti Shafie** Main supervisor: Dr Lim Ya Chee

Tea break (refreshments are provided) / Poster Viewing session
10.45am - 11.10am

Oral Presentations | Morning - Session 2 | 10 minutes presentation - 10 minutes Q &A
Moderated by: Pushpa Baladandapla Shivappa

Time	Session
11.10am – 11.30am	*Insights into the computer-aided drug design and discovery based on anthraquinone scaffold for cancer treatment: A systematic review.*
	Chua Hui Ming Main supervisor: Dr Dk Nurolaini Kifli
11.30am – 11.50am	*Sustaining Maternal Wealth: The Role of Medical Social Workers in Addressing Adolescent Pregnancy in Brunei Darussalam.*
	Siti Khuzaiyah Main supervisor: Dr Sarena Hashim
11.50am – 12.10pm	*COVID-19 Home Remedy Consumption and Perceived Effectiveness among Adult Population in Brunei Darussalam: A PLS-SEM approach.*
	Siti Nurzaimah Nazhirah binti Haji Zaim Main supervisor: Dr Hanif Abdul Rahman
Lunch break (refreshments are provided) **12.10pm - 1.10pm**	

AFTERNOON SESSIONS

Oral Presentations | Afternoon - Session 1 | 10 minutes presentation - 10 minutes Q &A
Moderated by: Chua Hui Ming

Time	Session
1.15pm – 1.35pm	*Perceived Stress Level Related to Personality Trait, Chronotype Profile, and Eating Behaviour among Hospital and Community Nurses in Brunei Darussalam: A PLS-SEM Approach*
	Nurul Nazurah Binti Haji Julaini Main supervisor: Dr Hanif Abdul Rahman
1.35pm – 1.55pm	*Prevalence and the Predictive Risk Factors of Compassion Fatigue among Nurses in Critical Care Medicine Units at Public Hospitals in Brunei Darussalam.*
	Hamyzan Bin Layak Main supervisor: Dr Mursidi bin Haji Ali
1.55pm – 2.15pm	*The Perception and Care-Seeking Behaviours of Patients Experiencing First Chest Pain Episode: A Constructivist Grounded Theory Study.*
	Nur Raihan Ramli Main supervisor: Dr Mursidi bin Haji Ali
2.15pm – 2.35pm	*Application of Telemedicine in Caring for Patients with Life-limiting Illnesses: A Hybrid Approach of Exploratory Qualitative Analysis and Machine Learning Apriori Techniques.*
	Nurfatin Amalina binti Haji Masri Main supervisor: Dr Asmah Husaini
Tea break (refreshments are provided) / Poster viewing session **2.35pm - 3.00pm**	

Oral Presentations | Afternoon - Session 2 | 10 minutes presentation - 10 minutes Q &A

Moderated by: Hjh Nadhirah Binti Haji Baharin

Time	Session
3.00pm – 3.20pm	*Development of an Educational Inventory for Nursing and Midwifery Student's Leadership and Management Preparedness.*
	Abdul Hadi Zulhiqman Bin Abdul Rahim Main supervisor: Dr Khadizah Haji Abdul Mumin
3.20pm – 3.40pm	*Effects of physiotherapy intervention through early mobilisation on functional outcome of acute stroke patients admitted to the Intensive Care Unit (ICU): A retrospective analysis.*
	Nuryasmin Haji Abu Bakar Main supervisor: Dr Hanif Abdul Rahman
3.40pm – 4.00pm	*Nutrition education and its relationship to body image and food intake in Asian young and adolescents: A systematic review.*
	Pushpa Baladandapla Shivappa Main supervisor: Dr Siti Rohaiza Ahmad
5-minutes break	
4.00pm – 4.30pm	Announcement of Winner by: **Assistant Professor Dr Siti Rohaiza Ahmad** (Programme Leader of Graduate Studies) Closing Speech by: **Professor Kenneth Kok Yuh Yen** Dean of IHS Closing Doa

Poster Presentations | 18 Participants
[Morning slot: 10.45am – 11.15am, Afternoon slot: 2.35pm – 3.00pm]

No.	Poster Titles
1	*Local Bruneian Rice Study: Descriptive Sensory Analysis of Local Bruneian Rice using Appearance, Aroma, Taste and Texture.*
	Nuur Nasriyyah binti Haji Junaidi
	Main supervisor: Dr Siti Rohaiza Ahmad
2	*The Impact of Mitochondrial Dysfunction on Cancer.*
	Nur Izzah Binti Bungsu
	Main supervisors: Dr Hajah Mas Rina Wati Haji Abdul Hamid
3	*Inhibition of 5-alpha-Reductase Enzymes Activity in The Prostate Cancer Cell Lines LNCaP using Aqueous and Ethanolic Extracts of Gynura procumbens and Pandanus amaryllifolius as A Way to Treat Advanced Prostate Cancer.*
	Nur Aziemah Mohammad Azizi
	Main supervisor: Dr Sheikh Naeem Shafqat
4	*Prevalence and risk factors association of low back pain among pregnant women in Brunei Darussalam.*
	Hajah Zirwatul Maziah Haji Zulkifli
	Main supervisor: Dr Shahrimawati Hj Sharbini
5	*Perception of Exercise in Patients with End-Stage Renal Disease in Brunei Darussalam.*
	Dk Hajah Nurul Zatil Hidayah Pg Haji Suffian
	Main supervisor: Dr Hajah Asmah Husaini
6	*The Prevalence of Peripheral Arterial Disease, and its Associated Sociodemographic, Risk Factors and Foot Pathologies amongst Type 2 Diabetes Mellitus Hospital-Based Patients with Diabetic Foot Ulcers in Brunei Darussalam; Retrospective Analysis.*
	Hajah Majidah Binti Haji Suhip
	Main supervisors: Dr Khadizah Binti Haji Mumin
7	*Factors Influencing Health Literacy of Diabetic Patients: A Review of Systematic Reviews.*
	Amalie Chin Siaw Fang
	Main supervisor: Dr Nik Anni Afiqah Tuah

8	*Knowledge, Attitudes, and Practices towards Physical Activity among Public Sector Librarians in Brunei Darussalam.*
	Amirul Shahezal Bin Haji Abd Rahman Main supervisor: Dr Nik Anni Afiqah Tuah
9	*Colorectal Cancer Risk Reduction and Early Detection using Epidemiological and Digital Technology.*
	Ummi Salwa Suhaimei Main supervisor: Dr Hanif Abdul Rahman
10	*Nursing and Midwifery Students' Experiences in Acquiring Practical Skills and Accomplishing Clinical Placements during the COVID-19 era.*
	Amal Amirah bte Mohammad Asri Main supervisor: Dr Khadizah Mumin
11	*The Final Year DiHS Midwifery Students' Experience and Perception on Their Clinical Learning Environment (CLE) in the Labour Wards within Brunei Darussalam.*
	Nor Amal Hazirah Binti Hassan Main supervisor: Dr Khadizah Mumin
12	*Compassion Fatigue, Emotional Exhaustion, and Burnout: Struggles of Informal Mental Health Caregivers.*
	Lim Zhi Ying Main supervisor: Dr Deeni Rudita Idris
13	*Exploring Students' Experiences and Common Practices Undertaken Following Needle-stick Injury (NSI).*
	Rahidah binti Ibrahim Main supervisor: Dr Mursidi bin Haji Ali
14	*Nurses' Insight on Ethical Dilemmas in Nursing Care and Practices: An Interpretive Explorative study.*
	Nurisbaniah Bte Haji Ismail Main supervisor: Dr Mursidi Haji Ali
15	*Intention of Digital Technology Adoption and its Barriers among Nurses in the Ward Settings.*
	Pg Mohd Amirul Amin Bin Pg Haji Metasin Main supervisor: Dr Hanif Abdul Rahman

16	*Nurses' View on the use of Talcum Powder in the Perineal Care of Female Inpatients in Brunei Darussalam: A Qualitative and Content Analysis Study.*
	Catherine Binti Abu Jahal Main supervisor: Dr Agong Lupat
17	*A Qualitative Study on the Factors Affecting Belongingness in the Clinical Setting among Nursing and Midwifery Students in Universiti Brunei Darussalam (UBD).*
	Nurul Fatihahtul Syahirah Binti Roslan Main supervisor: Dr Sarena Hashim
18	*Quality of Life and Biochemical changes in patient undergone Kidney Replacement Therapy: A Longitudinal study among patient with End Stage Kidney Disease in Brunei Darussalam.*
	Haji Muhammad Al-Amin Bin Haji Jamain Main supervisor: Dr Hanif Abdul Rahman

KEYNOTE SPEECH ABSTRACT

"Navigating Graduate Studies: Strategies for Success"

This seminar offers an in-depth exploration of the strategies critical for thriving in the challenging environment of graduate studies. It will emphasize the importance of strategic planning, critical thinking, and effective communication essential for navigating the demands of graduate studies.

A significant focus will be on the development and implementation of effective time management and organizational techniques. These skills are essential for efficiently managing tasks, priorities, and deadlines, ensuring progress towards objectives while maintaining a balanced approach to work and personal commitments.

Furthermore, the seminar will also highlight the value of building supportive networks. It outlines strategies for cultivating meaningful connections with colleagues, mentors, and industry professionals. These networks are vital for providing support, facilitating exchanges of ideas, and opening doors to opportunities in any career path.

Moreover, the importance of personal well-being will be addressed, with strategies for managing stress, cultivating resilience, and maintaining a healthy lifestyle. These practices are key to sustaining long-term motivation and performance in any pursuit.

Finally, the session will touch upon the significance of continuous learning and growth, encouraging participants to seek out development opportunities and to remain open to new experiences. This mindset is pivotal for adapting to changes, overcoming obstacles, and ultimately achieving one's goals.

DR SUWARNI HJ MD DIAH
Senior Assistant Professor
Deputy Dean of Graduate Studies
PAPRSB Institute of Health Sciences
Universiti Brunei Darussalam

WORKSHOP ABSTRACT

"Essential Guide to Statistical Analysis with R"

The ability to proficiently conduct statistical analysis is crucial for graduate students' work in extracting valuable insights from diligently collected data, to achieve the aim and objectives of their research project. This workshop serves as a guide, providing graduate students with hands-on experience in conducting statistical analyses using a powerful and free software – R – and learning through its interface – RStudio. Participants will be introduced to the software at a beginner level and gradually progressing through essential steps required in running common analyses such as different types of ANOVAs, clustering analysis, meta-analysis, and more. At the end of the workshop, graduate students will be equipped with essential knowledge and skills, enabling them to proficiently conduct common statistical analyses using R.

DR HANIF ABDUL RAHMAN
Assistant Professor
PAPRSB Institute of Health Sciences
Universiti Brunei Darussalam

Abstracts

Oral Presentations

Anticancer potential of silver nanoparticles synthesised from *Annona muricata* leaf extracts on colorectal cancer

Nurul Ashifah Shafie, Lim Ya Chee, Rajan Rajabalaya

Green synthesis of metal nanoparticles using plants have earned immense attention due to its simple and environmentally friendly standpoint. Silver nanoparticles (AgNPs) are considered as an ideal potential for cancer therapy owing to its known antitumor properties and low side effects. Our present study makes use of green synthesis to synthesise two types of AgNPs from *Annona muricata* aqueous leaf extract which are: 'uncoated' *A. muricata* AgNPs; and PVP-coated *A. muricata* AgNPs, where polyvinylpyrrolidone (PVP) is the stabilising agent. UV-Vis spectroscopy demonstrated surface plasmon peaks at 400-450nm for all samples which indicated successful formation of AgNPs. Their physiochemical characteristics was further elucidated through several characterisation techniques such as FTIR, DLS, AFM, FESEM, and zeta potential. The anticancer activities of AgNPs are screened *in vitro* and *in vivo*. For *in vitro* studies, the anticancer effects of AgNPs are investigated in colorectal cancer cells (HT29), whereas the *in vivo* study employs colorectal cancer-induced Sprague Dawley rats to assess the effects of treatment with AgNPs. The current study expects to document anti-colorectal cancer effects of AgNPs synthesised from *A. muricata*.

Development and Evaluation of Polyherbal Nanoemulsion Mouthwash for Oral Mucositis in Advanced Cancer Patients

Norafiqah Yusof, Rajan Rajabalaya

Cancer therapies can cause side effects such as oral mucositis in patients receiving chemotherapy and radiation. Oral mucositis is defined as lesions of the oral mucosa which lead to swelling, erythema (redness) and ulcers, eventually causing soreness and pain in the mouth. It is encountered as much as 54.5% by palliative healthcare professionals in Brunei. As oral mucositis is associated with discomfort, pain and difficulty in consuming food, efforts to mitigate the symptoms are crucial to ensure that cancer patients can have an optimal quality of life during cancer treatment. This study aims to formulate a polyherbal Nanoemulsion mouthwash based on a mixture of surfactants and several plant extracts namely amla, ginger, curcumin, pomegranate seed oil, clove, holy basil, green tea, and myrrh to treat oral mucositis symptoms. The optimized mouthwash formulation was assessed for its in-vitro cytotoxicity, antioxidant and antibacterial activities through MTT, DPPH assays and susceptibility tests respectively. From the present findings, the Nanoemulsion mouthwash exhibited minimal cytotoxicity on human epithelial cells while showing high antioxidant activities against free radical, DPPH and antibacterial activities against common oral pathogens. For future studies, this study also aims to explore the anti-inflammatory activities of the optimized Nanoemulsion mouthwash and to further innovate the mouthwash into a gel-based formulation known as Nanoemulgel for enhanced therapeutic effects.

In vitro investigation of standardised leaf extract of Morus alba Linn on calcium oxalate kidney stone model: Preliminary findings

Amira Asyiqin Binti Abdul Wahab, Dk Nurolaini Pg Hj Muhammad Kifli, Suwarni Hj Mohd Diah, Siti Hanna Binti Muharram

Urolithiasis, characterised by the deposition of stones in the urinary tract, is one of the most prevalent health problems worldwide. Conventional treatment modalities against urolithiasis are often associated with adverse effects and a high recurrence rate of 70–80% in males and 47–60% in females. Hence, there is a growing initiative to use herbal plant medicine as an alternative treatment and management. *Morus alba* Linn, locally known as Krakatau, is a small-sized tree that has been used traditionally for the prevention and treatment of metabolic, respiratory and urinary disorders. Previous studies have highlighted the potential benefits of *M. alba* L., including its biological anti-oxidative, nephroprotective and anti-inflammatory properties. Currently, there is limited data on the anti-urolithiatic effects of *M. alba* L. and no reported studies on local *M. alba* L. in Brunei. In this study, we aim to investigate the potential in vitro effects of locally grown *M. alba* L. leaf extract of different concentrations against calcium oxalate kidney stone model at different stages of stone formation. A nucleation assay was performed and microscopically evaluated, showing a significant reduction of percentage crystal mass in a concentration-dependent manner. Preliminary extract characterisation has shown high total phenolic and flavonoid contents of 41.96 ± 1.10 mg GAE/g extract and 23.95 ± 4.37 mg QE/g extract, respectively. Additionally, increasing extract concentrations demonstrated a corresponding increase in anti-oxidative capacities, as assessed through 2,2-diphenyl-1-picrylhydrazy (DPPH), 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) and ferric reducing ability of plasma (FRAP) assays. Further experiments will be performed to investigate the potential effect of anti-urolithiatic activity on aggregation and crystal growth stages and characterising active compounds of the extracts via high-performance liquid chromatography (HPLC).

Beyond the Exome: Whole Exome Sequencing of Breast Cancer Identifies High-Quality Germline Variants with Pathogenic Potential in the Off-Target Regions.

Rina Nurfadlina Rosli, Siti Nur Idayu Matusin, Lie Chen, Mas Rina Wati Abdul Hamid, Lu Zen Huat

Previous studies suggest off-target analysis of Whole Exome Sequencing (WES) data can reveal high-quality variants within the intronic and intergenic regions of the genome. This study explored these regions of Bruneian breast cancer samples aiming to identify high-quality variants that might provide additional insights into the genomic complexity of the disease. WES data from the blood samples of 15 breast cancer patients were analysed. Following quality assessments and alignments to the human reference genome (GRCh38), subsequent processing included MarkDuplicates and Base Recalibration followed by variant calling. A consensus set of high-quality variants, identified by at least two of three germline variant callers (GATK HaplotypeCaller, DRAGEN, Strelka2), underwent annotation for predicted functional impact. On average, 43% of high-quality variants were identified in off-target regions, while 57% were found within the targeted exome. We observed variants falling on regulatory elements potentially affecting gene expression and pathways relevant to breast cancer development. Traditional WES focuses on protein-coding exons, potentially overlooking crucial variations in non-coding regions. The germline variants identified in this study could unveil novel biological mechanisms of breast cancer predisposition. However, further large-scale association studies are necessary to ascertain the functional relationship between such off- target variants and those falling on the coding exome.

Nutrition education and its relationship to body image and food intake in Asian young and adolescents: A systematic review.

Pushpa Baladandapla Shivappa, Siti Norhedayah Abdul Latif, Sharimawati Haji Sharbini, Zaidah Rizidah Binti Murang, Siti Rohaiza Ahmad

The literature brings to light the unhealthy nutritional habits prevalent among Asian adolescents and their high level of body image dissatisfaction. This study aims to conduct a systematic review of the literature on the effect of nutritional education interventions on their nutritional knowledge and food intake behavior, attitude, practice, and body image. We searched relevant published studies in PubMed, Web of Science, Scopus, Science Direct, and Springer using the PICO framework. and performed a quality assessment using the ten-point checklist adapted from the National Institutes for Health tool. The majority of the nutritional education interventions improve unhealthy food intake and body image misperception, particularly on nutritional knowledge/self-efficacy, healthy dietary habits, physical activities, and fruit and vegetable intake. We also found a negative association with excess weight gain, obesity, and unethical weight reduction practices, leading to dissatisfaction with body image. These interventions can help address dietary problems and body image perception and support the development of future interventions.

Effects of physiotherapy intervention through early mobilisation on functional outcome of acute stroke patients admitted to the Intensive Care Unit (ICU): A retrospective analysis.

Nuryasmin Abu Bakar, Dayangku Siti Nur Ashikin Pengiran Tengah, Amri Masri, Abang Muhammad Fahmy Hepnie, Hanif Abdul Rahman

Early physiotherapy intervention in intensive care unit (ICU) patients has demonstrated numerous benefits, including improved functional activity, reduced pulmonary complications, shorter mechanical ventilation duration, decreased hospitalisation costs, and higher discharge rates. However, questions regarding the optimal initiation time, type, and intensity of treatments for acute stroke patients in the ICU remain unanswered. The objective is to investigate the correlation between the initiation time of physiotherapy intervention and functional outcomes for acute stroke patients admitted to the ICU at Brunei Neuroscience Stroke and Rehabilitation Centre (BNSRC) at 1-month, 3-month, 6-month, and 12-month intervals. A retrospective cohort study using patient clinical notes and data from the Brunei Health Information Management Systems (Bru-HIMS) of acute stroke patients admitted to the ICU from January 2020 to May 2022. Data from 182 patients meeting inclusion criteria and receiving ICU physiotherapy intervention were analyzed. Early mobilization correlated with earlier extubation ($p=0.009$), reduced mechanical ventilation duration ($p=0.026$), and shorter ICU ($p<0.001$) and hospital stays ($p<0.001$). Mobilisation within 3 days yielded significantly better modified rankin score (mRS) scores of 0 and 1 at 1-month, 3-month, and 6-month post-stroke compared to mobilisation after 3 days, which resulted in mRS scores of 4. Implementing early mobilisation protocols in physiotherapy interventions for acute stroke patients is crucial, leading to earlier extubation, reduced mechanical ventilation duration, and shorter ICU and hospital stays. In stroke rehabilitation, initiating mobilisation within three days post-stroke enhances functional outcomes at various intervals, emphasising the importance of early intervention for optimising patient recovery and long-term rehabilitation success.

Sustaining maternal wealth: The role of medical social workers in addressing adolescent pregnancy in Brunei Darussalam

Siti Khuzaiyah, Khadizah Haji Abdul-Mumin, Sarena Haji Hashim

Adolescent pregnancy significantly impacts young mothers and their children across both social and economic dimensions. Understanding these impacts is crucial for designing health programs. This study explores the socio-economic consequences of adolescent pregnancies in Brunei Darussalam. It particularly focuses on how medical social workers play an essential role in enhancing the health and economic stability of pregnant adolescents, thereby contributing to a broader understanding of their needs and the support systems necessary for their empowerment. Employing a qualitative approach, we conducted in-depth interviews with 35 maternity healthcare providers at the selected Maternal and Child Health Clinics in Brunei Darussalam. This method was chosen to gain a comprehensive understanding of the issues faced by adolescent mothers from a professional perspective. Data were thematically analysed. The study identified three primary themes concerning adolescent pregnancy: its social impact, economic consequences, and the role of medical social workers. Socially, it addresses issues like stigmatization, the difficulties of unmarried pregnancy, coping with unwanted babies, lack of support, substance abuse, and legal problems. Economically, it looks at financial hardship and unemployment among pregnant adolescents. The study highlights the importance of medical social workers in managing these challenges through activities such as gathering detailed information, providing personalised support, arranging transportation to medical facilities, offering counseling, and financial assistance, and ensuring consistent care and supervision. This reveals the complexity of adolescent pregnancy and the need for multifaceted intervention strategies. The negative impacts of adolescent pregnancy can profoundly affect young lives. Effective support from medical social workers is essential in guiding adolescents through the challenges of pregnancy and the post-pregnancy period. Additionally, focused efforts are needed to assist them in accepting unplanned parenthood and reintegrating positively into society, thereby enhancing their overall well-being and social stability.

Development of an Educational Inventory for Nursing and Midwifery Student's Leadership and Management Preparedness

Abdul Hadi Zulhiqman Bin Abdul Rahim, Khadizah Haji Abdul Mumin,

Shahrimawati Haji Sharbini

Insufficient preparation in leadership and management skills leaves students overwhelmed in clinical settings. To standardize and enhance readiness, an inventory is crucial for addressing learning needs before nursing and midwifery students assume leadership roles in the clinical setting. A Co-Design research was conducted involving 47 final-year nursing and midwifery students, whereby their insight and description of the core components necessary in the leadership and management preparedness for their transition into becoming registered nurses are explored to determine the domains needed in the development of inventory. Three identified domains: knowledge, skills, and attitude. In the 'Knowledge' domain, participants emphasized applying theoretical knowledge in clinical practice, understanding anatomy and physiology, pharmacology, and local medicine and diseases. In the 'Attitude' domain, participants highlighted essential qualities for nursing leadership. In the 'Skills' domain, participants noted deficiencies in confidence, collaboration, communication, delegation, and time management skills. The Inventory identifies user learning needs to enhance leadership and management competency. Further exploration is needed to assess its reliability and feasibility in various clinical settings, accounting for cultural and religious influences on each domain's effectiveness.

Perceived Stress Level related to Personality Trait, Chronotype Profile and Eating Behaviour Among Hospital and Community Nurses in Brunei Darussalam: A PLS-SEM Approach

Nurul Nazurah Haji Julaini, Hanif Abdul Rahman

This study aims to explore perceived stress related to personality, chronotype, and eating behaviour among hospital and community nurses in Brunei. This study used a quantitative method with a cross-sectional design. Participants were nurses from public hospitals and community health centers from all four districts in the country. The questionnaire was distributed online from January to March, 2023. The questionnaire consisted of a collection of demographic data to assess the general characteristics of participants, 10-items PSS to measure stress, 10-items brief BFI to identify personality, 19-items MEQ to identify chronotype, and 29-items SEBQ to identify eating behaviour. The statistical analyses include the Chi-square test for independence, one-way ANOVA, MLR, and PLS-SEM. The PLS-SEM illustrated that personality (= 0.482) is the most salient factor contributing towards perceived stress, followed by chronotype (= 0.45), accounting for 71.4% of the variance explained for perceived stress (R-square = 0.714). Whereas, perceived stress (= 0.719) is a factor affecting eating behaviour, accounting for 51.6% of the variance explained for eating behaviour (R-square = 0.516). The study suggests considering internal stressors, particularly personality and chronotype, when assessing perceived stress among nurses, as this can indirectly improve their eating behaviour.

The Perception and Care-Seeking Behaviours of Patients Experiencing First Chest Pain Episode: A Constructivist Grounded Theory Study

Nur Raihan Ramli, Sarena Haji Hashim, Mursidi Haji Ali

Cardiovascular disease (CVD) is a major health concern in Brunei claiming nearly 1.5 thousand hospitalisations and 500 deaths annually. It remains the second leading cause of death, especially among adult aged 30 to 60, where it contributes to two-thirds of premature deaths. However, people often delay seeking medical attention after chest pain, contributing to poor prognosis. This constructivist grounded theory study aimed to discover a theory explaining the perception and care-seeking behaviour of Bruneian patients experiencing their first chest pain episode. Twenty-three participants attended the Rapid-access Chest Pain Assessment Clinic (RACPAC) at Heart Centre RIPAS Hospital, were recruited. Face-to-face or virtual semi- structured interviews lasting 45 to 80 minutes were conducted. Theoretical sampling and constant comparative approach guided data collection and analysis using Charmaz's (2006) three-step coding process — initial coding, focused coding, and theoretical coding. Three themes emerged: (1) "It's (chest pain) normal sudah", which demonstrates how participants interpret chest pain; (2) "Alum mengampai, alum tah ke hospital", which discusses the context of care-seeking behaviour; and (3) Health seeking determinants, that identify factors that influence the decision of participants to seek care. This study reveals that Bruneian patients' perceptions and care-seeking behaviour regarding first-episode chest pain were significantly influenced by cultural beliefs surrounding 'normalcy'. The findings imply the need for enhanced support, care, and treatment for first-time chest pain patients. Further research is recommended to validate the theory across larger and diverse patient populations.

A Prevalence and the predictive risk factors of compassion fatigue among nurses in Critical Care Medicine Units at public hospitals in Brunei Darussalam.

Hamyzan Bin Layak, Hajah Hartini Haji Abdul Manan, Mursidi Bin Haji Ali

Caring in nursing comes with a cost - a phenomenon known as compassion fatigue (CF). Described as the 'loss of ability to nurture', the consequences are detrimental to the physical, emotional, social, spiritual, and work of a nurse. This, in return, will affect the quality of care delivered to the patients and patient-nurse relationship. Therefore, this study serves to investigate the prevalence and predictive risk factors of compassion fatigue among nurses working in Critical Care Medicine (CCM) Units in public hospitals in Brunei Darussalam. The objectives are: i) to determine the level of compassion fatigue among critical care unit nurses using the Pro-QOL 5 as a tool, and, ii) to investigate the association between the factors and the level of compassion fatigue in determining the predictive risk factors. A quantitative approach utilizing an adapted questionnaire known as Professional Quality of Life Scale version 5 (Pro-QOL 5), comprising of 30 items was utilized for this study. A total of 113 participants who are working in the critical care medicine units from 2 public hospitals were recruited using purposive sampling. The findings showed that prevalence of compassion fatigue is in the moderate to high level range (69%) with 95% CI of 60% to 77% among the CCU nurses. High levels of burnout (84.1%) and low levels of compassion satisfaction (82.3%) with $p = 0.043$ and < 0.01 respectively were the significant predictors which contributed to the development of CF. The moderate to high prevalence of CF warrants the attention of nursing management. Future study on effective coping style may be considered to develop strategies to improve the professional quality of life among critical care nurses.

Application of telemedicine in caring for patients with life-limiting illnesses: A hybrid approach of an exploratory qualitative analysis and machine learning apriori techniques

Nurfatin Amalina Haji Masri, Hajah Asmah binti Haji Husaini, Haji Abdul Hanif As Syafie bin Abdul Rahman, Muhammad Yusuf bin Shaharuddin

The persistent increase in cases of non-communicable diseases has resulted in a growing number of patients with life-limiting illnesses. Over the past decade, healthcare organisations have turned to the adoption of digital health services as one of the main strategies to combat these issues. However, many challenges persist and we need to understand them to ensure the effective implementation of these digital health services. This study aimed to explore the experiences of using telemedicine amongst healthcare professionals caring for patients with life-limiting illnesses, and their carers. This study was an exploratory qualitative study was carried out using a semi-structured interview. A purposive sample of healthcare professionals (N= 24) that include eligible nurses (n=12) and doctors (n=12) were recruited. The data were analysed using thematic framework analysis. Big data analytic techniques such as text mining and Apriori association were also applied to generate data-driven themes from the responses gathered. The result of this study revealed that a total of five meaningful themes were derived, namely: (1) Covid-19 as a catalyst for telemedicine, (2) Challenges for telemedicine, (3) Telemedicine in a family-oriented country, (4) One centre for telemedicine and (5) Consolidation of telemedicine. The experiences of telemedicine were varied amongst the participants. The use of telemedicine surged during the pandemic as the participants were forced to use telemedicine to communicate with their patients due to social restrictions. However, few factors need to be considered when using telemedicine. Challenges in using telemedicine such as the long hours in using telemedicine due to rapid adoption of telemedicine, the absence of physical assessment and vulnerability from the point of views of health care professionals were explored. The integration of telemedicine on the current health care services proved to be beneficial not only for health care professionals but also patients and carers. With telemedicine, more communities will be reached especially those patients who are having difficulties to meet their doctors and nurses physically. Different groups of patients may require different levels of use of telemedicine, hence, stringent guidelines or protocols are required to ensure the use of telemedicine are appropriate according to the needs of the patients.

COVID-19 home remedy consumption and perceived effectiveness among adult population in Brunei Darussalam: A PLS-SEM approach

Siti Nurzaimah Nazhirah Haji Zaim, Hanif Abdul Rahman, Deeni Rudita Idris

This study examines the utilisation of COVID-19 home remedies among adults in Brunei, considering the influence of diverse cultures in integrating home remedies, alongside conventional medicine, to alleviate mild COVID-19 symptoms. The study employed a nationwide cross-sectional design through an online survey. Statistical analysis covered descriptive statistics on sociodemographics, COVID-19 experience, general and COVID-19 home remedy consumption, practices, and attitudes. Sub- group analysis, utilising chi-square tests, explored variables in relation to COVID-19 home remedy usage and perceived remedy effectiveness. Multivariate analysis, employing Partial Least Squares Structural Equation Modelling (PLS-SEM), assessed correlations between factors and outcomes. Significance was determined with a P-value less than 0.05. Out of 864 responses, 72.2% of participants in the study utilized COVID-19 home remedies, with cloves (37%), lemon (37%), and honey (23%) being the most common. Analysing through PLS-SEM, the study indicates that 'Experience' is a central endogenous variable influencing the decision to use COVID-19 home remedies. This relationship is mediated by 'Safety', 'Source'; and 'Opinion' collectively contributing significantly to the outcome, explaining 98.2% of the variance (R-square = 0.982). This study establishes the baseline prevalence of COVID-19 home remedy use among Bruneian residents, offering insights and valuable information for healthcare professionals.

Insights into the computer-aided drug design and discovery based on anthraquinone scaffold for cancer treatment: A systematic review

Chua Hui Ming, Dk Nurolaini Kifli, Goh Poh Hui, Long Chiau Ming

Computer-aided drug design (CADD) techniques play an indispensable role in facilitating the lengthy and costly drug discovery process especially when natural products are involved. Anthraquinone is one of the most widely-recognized natural products with anticancer properties. This review aimed to systematically synthesize evidence on the utilization of CADD techniques centered on the anthraquinone scaffold for cancer treatment. This review was done in accordance to the PRISMA 2020 guideline. The search strategy was designed based on the combination of concept 1 "CADD or virtual screening", concept 2 "anthraquinone" and concept 3 "cancer" and executed in PubMed, Scopus, Web of Science and MedRxiv on 30 June 2023. Databases searching retrieved 317 records. After deduplication and applying the eligibility criteria, the final review included 32 articles. The CADD methods used were either structure- based alone (69%) or combined with ligand-based methods via parallel (9%) or sequential (22%) approach. Molecular docking was performed in all studies, with Glide and AutoDock being the most popular commercial and public software used respectively. Protein Data Bank (PDB) was used in most studies to retrieve crystal structure of the macromolecular targets while the main ligand databases were PubChem and Zinc. The utilization of in-silico techniques has enabled deeper dive into the structural, biological and pharmacological properties of anthraquinone derivatives, revealing their remarkable anticancer properties in an all-rounded fashion. By harnessing the power of computational tools and leveraging the natural diversity of anthraquinone compounds, researchers can expedite the development of better drug to address the unmet medical needs in cancer treatment.

Abstracts

Poster Presentation

Investigation of the Impact of Mitochondrial Dysfunction on Cancer

Nur Izzah Bungsu, Hjh Mas Rina Wati Haji Abdul Hamid, Mark IR Petalcorin

Mitochondria, essential organelles responsible for diverse biological processes, play a crucial role in regulating oxidative phosphorylation (OXPHOS)-mediated aerobic respiration, the tricarboxylic acid (TCA) cycle, and adenosine triphosphate (ATP) generation for cellular energy needs, including normal cellular growth. Dysfunctional in any of these key mitochondrial processes have been strongly linked with the development and progression of cancer although their specific mechanisms remain to be determined. This present study aims to investigate the functionality of mitochondrial OXPHOS, the primary energy-producing mechanism, in cancer. Additionally, we seek to elucidate how cancer cells utilize glucose, the major fuel substrate for most cells, in OXPHOS-deficient conditions. Our investigative approach will involve employing *in vivo* nematode *Caenorhabditis elegans* (*C.elegans*) and *in vitro* immortalized cancer cell lines as our model systems. We will initially assess and determine the functionality of mitochondrial OXPHOS in cancer by subjecting cultured *C.elegans* and cancer cell lines to pre-treatment with or without OXPHOS inhibitors such as rotenone, antimycin-A or oligomycin, followed by exposure to glucose to the model organisms. The phenotypic assessment of *C.elegans* and cancer cell lines will be conducted through egg-laying and cell proliferation assays respectively.

Inhibition of 5-alpha-Reductase Enzymes Activity in The Prostate Cancer Cell Lines LNCaP using Aqueous and Ethanolic Extracts of Gynura procumbens and Pandanus amaryllifolius as A Way to Treat Advanced Prostate Cancer

Nur Aziemah Mohammad Azizi, Sheikh Naeem Shafqat, Nuramalina Mumin

Prostate cancer (CaP) is one of the most frequent cancers in men worldwide including in Brunei. Dihydrotestosterone (DHT), the primary growth modulator of the prostate, is also thought to contribute to the pathogenesis of CaP. However, 5α-Reductase enzymes (5αRs)-mediated increase in DHT level is detrimental towards CaP. The androgen deprivation approach using 5α- Reductase inhibitors (5αRis) that regulate DHT conversion represents a valid target for CaP treatment strategies. However, current synthetic 5αRis (finasteride and dutasteride) are reported to have numerous adverse effects. Plant sources rich in bioactive compounds with medicinal properties exhibit favourable side effects and have fewer toxic profiles than conventional treatment. Therefore, the present study aims to identify herbal compounds from locally found plants that can act as effective 5αRis agents with anti-5αRs activity as potential novel drug targets for advanced CaP treatment strategies. Three stages of experimental studies will be carried out, namely; i) plant studies, which include the plants' selection, extraction, and characterisation, ii) anti-cancer studies to investigate the effect of plants' extracts on the LNCaP cell lines and their mechanism of action, and iii) 5αRs-inhibition activities studies for the establishment of 5αRs-mediated DHT conversion expression system in the cell lines and the investigation of the inhibitory profiles of both synthetic and herbal 5αRis. The findings from the study are hoped to provide beneficial insights to improve the health of individuals with advanced CaP.

Local bruneian rice study: Descriptive sensory analysis of local bruneian rice using appearance, aroma, taste and texture

Nuur Nasriyyah binti Haji Junaidi, Siti Rohaiza Ahmad, Hajah Fazean Irdayati Haji Idris

This study will explore the sensory attributes of locally cultivated rice varieties in Brunei, employing a systematic approach with trained sensory panellists. Through rigorous sensory analysis techniques, such as descriptive profiling and discrimination testing, the study aims to differentiate the unique attributes that distinguish Bruneian rice varieties and elucidate the nuanced appearance, aroma, taste and texture profiles of such rice varieties. A carefully selected and trained panel of experts will evaluate these sensory characteristics, providing detailed insights into the unique qualities that define each rice type. By employing such an approach, this study seeks to uncover preferences, identify key sensory traits, and offer insights into the potential culinary applications of local rice. The findings of the study aim to contribute valuable information to agricultural stakeholders which could optimize production efficiency and improve customer satisfaction by achieving success in product development and commercial rice productions more acceptable and effective, as well as, consumers which could promote the appreciation and utilization of Bruneian rice varieties in both local and international culinary contexts. Ultimately, this study serves as a foundation for fostering sustainable agricultural practices and enhancing the overall sensory quality of Brunei's rice varieties.

The Prevalence of Peripheral Arterial Disease, and its Associated Sociodemographic, Risk Factors and Foot Pathologies amongst Type 2 Diabetes Mellitus Hospital-Based Patients with Diabetic Foot Ulcers in Brunei Darussalam; Retrospective Analysis.

Hajah Majidah Binti Haji Suhip, Khadizah Binti Haji Mumin, Shahrima Binti Haji Sharbini, Norafizah Binti Haji Zaine

Peripheral arterial disease, a major cardiovascular disease affecting 202 million people worldwide. However, the prevalence of peripheral arterial disease in Brunei Darussalam has never been established before where this proposed study intends to do so. By focusing on type 2 diabetes mellitus patients, this would help to understand peripheral arterial disease's disease burden in this group of high-risk patients. Understanding the symptoms of peripheral arterial disease is crucial in order to make an unerring and timely diagnosis of this life-changing and life-threatening disease. The most common symptom of peripheral arterial disease is intermittent claudication which is defined as pain, cramping, or aching in the calves, thighs, or buttocks with walking and relieved by rest. The late diagnosis of peripheral arterial disease in type 2 diabetes mellitus patients is attributable to diabetic peripheral neuropathy. Since there is sensory loss in people with diabetic peripheral neuropathy, the pain caused by intermittent claudication may be masked. This leads to underdiagnosis of peripheral arterial disease. Sufferers are less likely to seek medical attention until dire signs and symptoms appear, or the disease is at the advance stages, where treatment is more invasive and have less desirable prognosis. Between years 2017 to 2020, methods used by podiatrists in the Ministry of Health Brunei Darussalam to diagnose peripheral arterial disease were subjective methods alone. This is in contrast with recommendations by current guidelines emphasising the importance of including objective methods to ensure the accuracy of diagnosis and interpreting vascular assessment findings. This cross-sectional study will explore extracted retrospective national registry data from the Brunei Diabetic Foot Registry. This is to evaluate the prevalence of peripheral arterial disease and its associated sociodemographic profile, risk factors and foot pathologies, as well as understanding diabetic foot ulcer characteristics related to peripheral arterial disease amongst type 2 diabetes mellitus hospital-based patients. This will enable identification of high-risk groups, monitor trends over time, which later can be used to dictate intervention strategies, optimise available resources and facilitate disease planning and preparedness to further improve on the care and prevention of peripheral arterial disease.

Prevalence and risk factors association of low back pain among pregnant women in Brunei Darussalam

Hjh Zirwatul Maziah Hj Zulkifli, Shahrimawati Binti Haji Sharbini, Sarena Hj Hashim, Mohammad Ayub Sadiq @ Lin Naing

Low back pain (LBP) is one of the most prevalent complications during pregnancy which can have significant negative impact on a woman's life yet lacks the appropriate attention from pregnant women and healthcare providers despite growing evidence of interventions. This study aims to estimate the prevalence and investigate risk factors associations of LBP among pregnant women in Brunei. It is a cross-sectional study using self-administered questionnaires among randomly selected women attending the antenatal clinics in 10 chosen health centers. Risk factors associations investigated in this study are maternal age, gestational age, gravida and parity, body mass index (BMI), employment, education level, number of children living together, presence of support, and previous LBP. Self-management of LBP is explored. The Oswestry Disability Index (ODI) questionnaire will be used to determine disability level and its association with health-seeking patterns. Data will be analyzed by descriptive analysis, multiple logistic regression, and chi square test using RStudio software. It is anticipated that outcome of this study will yield a high prevalence - estimated 84% as per prevalence in Malaysia, and risk factors that include older age and previous LBP. The result of this study will be utilized to improve the maternal healthcare services in Brunei.

Perception of exercise in patients with end-stage renal disease in Brunei Darussalam

Dk Hjh Nurul Zatil Hidayah Pg Hj Suffian, Hajah Asmah Haji Husaini, Lim Chiao Yuen

The global prevalence of Chronic Kidney Disease (CKD) stands as a significant health challenge, adversely impacting both the physical well-being and psychosocial dimensions of affected individuals. Especially noticeable in Brunei Darussalam, the increasing incidence of ESRD represents a pressing issue. Factors such as Diabetes Mellitus, compounded by a high prevalence of obesity, significantly contribute to this rise. This necessitates a deep understanding of the comprehensive care required for CKD patients, from in-patient treatments to outpatient support systems. Despite the existence of services aimed at managing CKD, the absence of a structured rehabilitation program in Brunei accentuates the need for a holistic approach. The aim of this study is to explore the perceptions of exercise in managing fatigue and improve quality of life among patients with CKD, especially ESRD patients receiving haemodialysis or peritoneal dialysis. This explorative qualitative study will recruit more than 30 participants to be selected through purposive sampling technique via self-developed questionnaires. This study will employ semi-structured interviews and triad focus group discussion as the primary methods for data collection. Each session will be audio-recorded and will be transcribed verbatim to undergo inductive thematic analysis process.

Colorectal Cancer Risk Reduction and Early Detection using Epidemiological and Digital Technology

Ummi Salwa Suhaimei, Hanif Abdul Rahman

Colorectal cancer (CRC) is the second leading cause of cancer-related deaths globally, with an estimated 1.8 million new cases and 881,000 deaths in 2018. Early detection and effective risk reduction strategies are crucial to reducing the incidence and mortality of CRC. In Brunei, despite the availability of screening programs, the incidence of CRC is on the rise. The use of digital technology, including mobile health apps, has the potential to enhance existing screening programs and improve the early detection and risk reduction of CRC. The main aim of the proposed project is to develop a machine learning/deep learning (ML/DL) based model for risk reduction and early detection of CRC in Brunei. The first phase of the study will involve development and comparison of theory-based and ML/DL-based model for CRC risk prediction using data available from global sources. The second phase will consist of integration of the ML/DL-based model as a calculator into a web- or mobile- platform such as BruHealth to collect Brunei data for validation of the model. Early detection and prevention of CRC can lead to significant cost savings for the healthcare system by reducing the need for expensive treatments and procedures. By using machine learning to identify individuals at high risk for CRC, this study has the potential to improve health outcomes and save lives. Overall, this study has the potential to make a significant impact on CRC research and contribute to the development of new, more effective methods for predicting and preventing this disease.

Nursing and Midwifery students' experiences in acquiring practical skills and accomplishing clinical placements during the COVID-19 era.

<u>**Amal Amirah bte Mohammad Asri**</u>, Khadizah Haji Abdul Mumin

The unprecedented COVID-19 causes nursing institutions globally to be torn between preventing students from clinical practice that negatively affects clinical skills preparation, and, allowing clinical practice that risks them being infected. In Brunei, students were prohibited from attending clinical placements where they only resumed studies after months of long absence. Yet, there is limited evidence in the existing literature on the impacts of these impetuous changes on students. The study aimed to explore nursing and midwifery students' experiences in accomplishing skills during their clinical placements throughout the COVID-19 era. This is a descriptive qualitative study conducted in Pengiran Anak Puteri Rashidah Sa'adatul Bolkiah Institute of Health Sciences, Universiti Brunei Darussalam on students undertaking Bachelor of Health Sciences (Nursing/Midwifery). Semi-structured individual interviews were conducted on a purposive sample of 21 nursing and midwifery students. All interviews were audio-recorded, transcribed verbatim and analysed thematically using Braun and Clarke's framework for thematic analysis. Students described their experiences of the COVID-19 pandemic and the aftermath in two themes which is further divided into 2 subthemes. 1) 'Chasing clinical skills' delineated students' concern about going back to clinical and being a students and graduates during the COVID-19 pandemic and experiences of challenges in trying to regain skills that were lost during the pandemic which the 2 subtheme include delving into student mind and opportunist gaining the upper hand ; 2) 'Confronting and compensating for the expedite learning' highlighted the students' strategies to tackle challenges in acquiring skills during their clinical placement. The 2 subtheme are conquering threats in acquiring skills and unusual learning curve. The COVID-19 pandemic has caused sudden adjustments in nursing and midwifery students' learning. The students struggle with impediments and challenges and strived to employ several strategies in acquiring the skills deficiencies. Despite the endemicity, students experience long-term mental health effects of COVID-19 in coping and compensating for the hampered clinical skills. Nursing institutions should design and innovate educational plans to improve students' capacity to learn, retain and recover from the skills gap disrupted during the COVID-19 crisis.

The Final Year DiHS Midwifery students' Experience and Perception on their Clinical Learning Environment (CLE) in the Labour wards within Brunei Darussalam.

Nor Amal Hazirah Binti Hassan, Khadizah Haji Abdul Mumin, Hanif Abdul Rahman

Clinical placement is a fundamental element of nursing and midwifery educational programmes. Although it has been established that clinical learning experiences have a significant influence on students' development of professional competences in labour and delivery units, little research has been done on this topic. The aim of this paper is to describe the clinical learning experiences of final-year DiHS midwifery students in labour wards within Brunei. A qualitative study was conducted using three focus groups (n=18). The data analysis included transcribing audio recordings, categorising sub themes that recurred frequently, and identifying main themes. Researchers consistently discussed the analysis at every stage to maintain data integrity and alignment with the research objectives. The data analysis identified that the factors responsible for shaping students' learning encounters in labour wards can be categorised as follows: (1) students' perception of the labour room learning environment, (2) factors that enhance effective clinical education and development, and (3) barriers and challenges to learning and acquisition of competency. Collectively, students found their experience in the labour wards invaluable for learning and skill development, but also faced significant pressure and stress due to high expectations. However, as students progressed through their clinical placement, they reported an improved ability to handle the demands of the labour ward. Amidst the multitude of challenges and barriers faced by students, the findings of this study hold significant implications for the advancement of midwifery clinical education programs. By integrating the identified essential components into the curriculum, educational institutions can more effectively equip students with the required skills, knowledge, and support. A holistic approach that places emphasis on peer and patient support, effective supervision, self-reflection, and mentorship will enhance the overall educational experience and better prepare aspiring midwives for their professional journeys.

A Qualitative Study on the Factors Affecting Belongingness in the Clinical Setting among Nursing and Midwifery Students in Universiti Brunei Darussalam (UBD)

Nurul Fatihahtul Syahirah Binti Roslan, Sarena Haji Hashim

The feeling of not belonging in a workplace can create alienation and increase the risk for depression, anxiety, or physical illnesses in an individual. Nursing and midwifery students may feel alienated and disengaged from both patients and colleagues if they do not feel they belong in the clinical practice and do not receive the required support to deal with challenges and difficulties in clinical experiences. They might also regret their choice, detrimental to their educational opportunities, success and retention in the program. The study objectives were to describe nursing and midwifery students' experiences of factors contributing to the sense of belongingness during their clinical practice, and explore strategies for strengthening the sense of belongingness during the clinical practice. This was an exploratory qualitative research on a purposive sample of 30 nursing and midwifery students in the public largest and sole providers of undergraduate nursing and midwifery education in Brunei Darussalam. Semi-structured in-depth individual interviews were conducted and data were analyzed by using thematic analysis. Three themes and eight sub-themes were identified to affect the student's sense of belongingness in the clinical settings. The themes were: 1) balancing commitments and expectations, 2) nursing/midwifery survival skills of the 21st Century, and 3) psychological self-care for enhancing the sense of belongingness. The sub-themes include the intergenerational gaps, contributions of stakeholders, student's expectations; adaptability to the new environment, acquiring a social sense, critical thinking, reflective and management skills; enhancing learners' attributes and engaging professional growth. Commencing a good and healthy sense of belongingness in the clinical setting benefits beyond just the students. Tackling students into enjoying the journey as a nursing or midwifery student will make them feel as part of the team or being valued. Along the process, this will also help the students become more self-assured and clinically proficient, which will eventually improve nursing care and performance. Therefore, it is crucial to address the issues affecting the students' sense of belongingness in the clinical environment.

Quality of Life and Biochemical changes in patient undergone Kidney Replacement Therapy: A Longitudinal study among patient with End Stage Kidney Disease in Brunei Darussalam.

Haji Muhammad Al-Amin Haji Jamain, Hanif Abdul Rahman, Jackson Tan

Brunei Darussalam is a small country with one of the highest percentages of people with chronic kidney disease, also known as end-stage kidney disease (ESKD). There are three main treatments for ESKD, which include hemodialysis, peritoneal dialysis, and kidney transplantation. Each has different levels of effect on a patient's physical, mental, and social health and different restrictions on a patient's lifestyle. The aim of the study is to evaluate the quality of life and biochemical changes of patient with ESKD at baseline, 6-months, and 12-months after kidney replacement therapy (KRT). The objectives of this study are: to profile the patient who had undergone kidney replacement therapy (KRT); to estimate the quality of life and biochemical changes after receiving KRTat baseline, 6 months, and 12 month; to compare the quality of life by type of KRT, sociodemographic, and biochemical factors; and to develop a statistical model to understand the factors affecting the quality of life of patients with ESKD who received KRT. The results of this study will provide evidence for educating patient about better treatment options and influence their preference for future treatment, particularly for patient who not yet on dialysis. A longitudinal study in which participants will be asked to complete a SF-12 questionnaire analysing the impact of ESKD on quality of life based on their preferred KRT and exploring the biochemical changes using patient laboratory results as a result of the treatment. Hemodialysis is the most prominent treatment option in Brunei, and it is preferred over alternative treatments. However, the government has struggled to accommodate this therapy, and many countries have problems with logistics and infrastructure that make it hard to build new dialysis facilities. Thus, the government should put more effort and focus into its plans and strategies to increase access to kidney transplants, and if kidney transplants are not always possible, patients on dialysis should have to undergo peritoneal dialysis as their primary treatment.

Compassion fatigue, emotional exhaustion, and burnout: Struggles of informal mental health caregivers

Lim Zhi Ying, Deeni Rudita Idris

Informal caregivers play a crucial role in the health outcomes of patients shifting from inpatient to outpatient care. Individuals providing care for individuals diagnosed with psychiatric illnesses experience more stress as opposed to those providing care for those diagnosed with chronic medical illnesses. If unprepared or unaddressed, this may lead to informal caregivers experiencing burnout (BO), compassion fatigue (CF), and emotional exhaustion (EE) which then negatively impacts the quality of care provided thus resulting in patients relapsing, poorer health outcomes, and frequent readmissions. This study aims to explore CF, EE, and BO among informal caregivers providing care for individuals diagnosed with mental health disorders and the impact of CF, EE, and BO on informal caregivers and the quality of care they provide. Given the aims and objectives of this research study, a qualitative approach will be utilized. The data will be collected utilizing semi-structured open-ended individual interviews or focus group discussions. The present literature suggests that there are detrimental effects of caregiving on informal caregivers, care recipients, and even the healthcare system, especially concerning psychiatric illnesses. It can be said that similar issues likely arise in Brunei Darussalam however, these issues may differ due to the unique cultural differences. Therefore, these issues should be identified, and preemptively addressed.

Exploring students' experiences and common practices undertaken following needle-stick injury (NSI)

Rahidah Ibrahim, Mursidi Haji Ali

This study explores the aspect of experiences and common practices undertaken by undergraduate nursing and midwifery students following needle-stick injury (NSI). Research has shown students' perspectives and experiences are often neglected. Thus, it is vital to also take into account on their experiences as students who are also acting as our future healthcare leaders. Furthermore, there is a significant gap in the existing on the exposure to needle-stick injuries among Bruneian nursing and midwifery students. A published study regarding needle-stick injuries among students in Brunei was unidentified. Therefore, this study attempts to bridge the knowledge gap and address any issues surrounding the topic. The objectives are to identify common factors that contribute to needle-stick injuries (NSIs); to identify the common practices or actions undertaken following a needle-stick injury (NSI); to identify the common factors that influence their reporting and unreporting actions; to identify psychological impacts upon experiencing the needle-stick injury; and based on the findings, to recommend strategies to improve and prevent needle-stick injuries among healthcare students. An explorative qualitative research design using an in-depth semi-structured interview and data collected was analyzed using thematic analysis. A total of 11 undergraduate nursing and midwifery students from Pengiran Anak Puteri Rashidah Sa'datul Hassanal Bolkiah, Institute of Health Sciences, Universiti Brunei Darussalam. Ethical approval was obtained from the institute with a reference number: UBD/PAPRSBIHSREC/2022/142. Four themes were identified from the data; causative factors, impact of NSI, approaches to NSI and controlling NSI occurrence. This study discovered nursing and midwifery students' experiences of needle-stick injuries and their actions post-NSI in clinical settings and explored the factors affecting students' intention to report the NSIs. It is obvious that nursing and midwifery students undergo emotional distress, fear and frustration, and blaming themselves and perceiving themselves as incompetent. Needle-stick injuries are caused by behavioural factors such as recapping behaviour and an unconducive working environment. Hence, clinical and institutional practice on controlling NSI occurrence among the students was recommended.

Nurses' insight on ethical dilemmas in nursing care and practices: An interpretive explorative study.

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The hallmark of nursing is its holistic approach whose values are central in maintaining ethical obligations and moral concerns. Nurses also make moral considerations in their daily practices, not just in scenarios involving life or death but also in everyday concerns. However, nurses are often faced with ethical dilemmas in which conflict would arise when nurses had to choose between conflicting ethical choices. Consequently, ethical dilemmas lead to moral distress and if let unaddressed, could lead to nurses' burnout, ethical insensitivity and ambivalence toward nursing care and practice. This research aims to explore and discuss the ethical dilemmas described and experienced by medical nurses in clinical practice today. The objectives of the study are to: (1) explore the nurses' interpretation of ethical dilemmas, (2) explore the various ethical dilemmas faced by nurses in their daily practice, (3) examine the factors influencing nurses' decision-making processes in ethical dilemmas, (4) understand the strategies utilised by nurses to navigate ethical challenges, and, (5) to investigate the impact of ethical dilemmas on nurses' professional well-being and their nursing practice. The primary research method for this study is an interpretive exploratory qualitative approach. Data will be collected through semi-structured qualitative in-depth, face to face interview guided by an interview guide and using vignette as a research tool.

Nurses' view on the use of talcum powder in the perineal care of female inpatients in Brunei Darussalam: A Qualitative and Content Analysis Study

Catherine Binti Abu Jahal, Agong Lupat, Khadizah Mumin

Recent systematic reviews of the use of talcum powder in the perineal area and its association with ovarian cancer have been contradictory. As concrete evidence is yet to be established, its usage for patients' perineal care is controversial and may not permit or discourage the practice. This study aims to explore nurses' perspectives on talcum powder usage and its effects on the perineal care of female inpatients. A qualitative content analysis of an online open-ended questionnaire is used. The study was conducted from June 2022 to August 2022 involving 43 nurses working in the female medical wards at Raja Isteri Pengiran Anak Saleha (RIPAS) hospital. The data is obtained from the distribution of the online questionnaire link through emails. Content analysis and thematic analysis were employed on the questionnaire answers. Four themes are identified: 1) 'Inexplicit restriction on the usage of talcum powder' delineates that it is unclear if the practice of application of talcum powder in the inpatient wards is neither restricted nor encouraged; 2) 'A part of the patient care routine' explains that talcum powder is inevitably used as per patient's daily request; 3) 'A fundamental nursing care' demonstrates the nurses' reasoning on the use of talcum powder fundamentally for hygiene related care; and 4) 'Relief for perineal ailments' illustrates nurses' perceptions that the property and functionality of talcum powder to be beneficial for minor patients' perineal ailments. The study demonstrates that nurses would still adhere to patient requests for their comfort by applying talcum powder to their perineal area. Scientific laboratory studies that explicitly confirmed the exact toxicological risks of the contents and properties of talcum powder are deemed required. The risks should be transparently communicated and emphasised for consideration of changes in nursing practices to promote patient health and safety and recommend alternatives to replace the current use of talcum powder for perineal care in the ward setting.

Intention of digital technology adoption and its barriers among nurses in the ward settings

Pg Mohd Amirul Amin Bin Pg Hj Metasin, Hanif Abdul Rahman

Digital technology is responsible in the advancement of nursing as it drastically changes the approach how the nurses operate within the multidisciplinary team. Digital Technology plays vital role in the modern nursing in mainly on communication and data collection. This study aims to explore the intention and factors affecting digital technology adoption among hospital nurses. A cross-sectional study using online self-administered questionnaire will be used to collect the data from March 2024 to April 2024. The participants targeted will be the Registered Nurse actively working in the RIPAS hospital wards. The questionnaire consists of close-ended questions with multiple choice answer regarding the use of Digital technology, their adaptation and their intentions. With better implementation and understanding of Digital technology, the multidisciplinary team can benefit from better communication and work efficiency. Potentially reducing burnout and turnover rate for the nurses. Through this research, it would hopefully provide information on the intention of digital technology adaptation in nursing practice. Giving a better insight how technology can be developed to assist in improving how nurses practice their nursing care.

Knowledge, attitudes, and practices towards physical activity among public sector librarians in Brunei Darussalam.

Amirul Shahezal Bin Haji Abd Rahman, Nik Ani Afiqah Tuah, Hanif Abdul Rahman

Librarians work is classified as sedentary. There are no known level of physical activity (PA) among public sector librarians in Brunei outside working hours. The WHO reported that one in four adults does not have adequate PA globally, and declared lack of PA as a global public health issue due to its association with many health problems. The aim of this study is to determine the knowledge, attitudes, and practices (KAP) towards Physical Activity (PA) among public sectors librarians. The proposed method in this study is a cross-sectional design using online-based survey collect data from librarians who work in public sectors.This study can act as a baseline study to create an intervention to promote physical activity to improve health conditions at workplace. It can also be a guideline for policy makers and private and public organization to take physical activity seriously as inadequate physical activity is associated with NCDs.

Factors influencing health literacy of diabetic patients: A review of systematic reviews

Amalie Chin Siaw Fang, Mohd Ayub Sadiq, Hjh Norhayati Kassim, Nik Ani Afiqah Tuah

Acquiring good health literacy skills is essential for diabetic patients to make appropriate informed decisions to improve their health outcomes and overall quality of life. To improve the health literacy of diabetes patients, it is crucial to understand the underlying factors influencing health literacy. Many of the previous review studies had assessed the health literacy status, health literacy and its association with the health outcomes of diabetic patients. However, there are no known review studies that systematically review the factors influencing the health literacy of diabetic patients. This review aims to assess the evidence of the factors influencing the health literacy of adult diabetic patients. Literature was searched in PubMed, Google Scholar, and Science Direct using search terms that were limited by title and abstracts. The PRISMA model was used to synthesize and evaluate the quality of the reviewed articles. A literature review table was tabulated to extract data on the study designs, sample population, findings, and outcome measures from the reviewed studies. The reviewed papers were analyzed thematically. A total of four review articles were included. The four factors found to be influencing health literacy and health outcomes were mainly (1) Sociodemographic factors such as age, gender, level of education, income, and occupation, (2) Social factors such as language barrier, (3) Support from the healthcare system, and (4) other patients' factors such as severity of disease, health beliefs and psychological condition. This review provides a better understanding of the factors influencing health literacy to improve the health literacy of diabetic patients.

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