FACULTY OF ALLIED HEALTH SCIENCES

UNIVERSITY OF JAFFNA

Proceedings of the

6th Undergraduate Research Symposium 2024

"Optimal Health to Enjoy the Longevity"

05th April 2024

Proceedings of the 6th Undergraduate Research Symposium 2024

05th April 2024

Faculty of Allied Health Sciences,
University of Jaffna,
Sri Lanka.

Published by
Faculty of Allied Health Sciences,
University of Jaffna,
Sri Lanka.

Printed by
Guru Printers,
#36, Adiyapatham Road,
Thirunelvely,
Jaffna.

ISBN 978-624-6150-28-0

TABLE OF CONTENTS

ISBN 978-624-6150-28-0

ORGANIZING COMMITTEE

Dean/FAHS:	Mrs. D. Thabotharan
Symposium Chair:	Mr. S. Sathees
Secretary:	Mrs. S. Sumana
Treasurer:	Ms. K. Dilakshana
Editor:	Dr. R. Karunaithas
Committee members:	Mrs. V. Jegapragash
	Mr. S. Thuvaragan
	Ms. K. Kajenthini
Student members:	Ms. J. Jenny Venitia
	Mr. T. Nivekshan
	Mr. S. Sivatharan
	Mr. J. Kanistan
	Ms. B. T. M. Devappriya
	Ms. T. Sangavi

ISBN 978-624-6150-28-0

MESSAGE FROM THE VICE CHANCELLOR

With great pleasure, I extend my greetings and best wishes for the 6th Undergraduate Research Symposium hosted by the Faculty of Allied Health Sciences (FAHS) at the University of Jaffna. University of Jaffna has its vision to be a leading centre of excellence in teaching, learning, research and innovation. It also stands with an outstanding history of supporting the research activities of the staff and students of this entity. In that manner, I congratulate the efforts of the staff of the FAHS for taking the initiative to conduct this symposium for undergraduate students as the golden jubilee celebration of the University. I expect this symposium to be the best scientific forum for young graduates to provide exposure and to make their research work visible to the scientific community. I am foreseeing this symposium as a way to establish an undergraduate research culture within the faculty which in turn can promote research among the future undergraduates and also can encourage the young academics of the faculty to be more engaged in research and innovation. This symposium would be an enriching experience for all participating undergraduates.

Facilitating the advancement of innovative research skills of undergraduates through continuous encouragement and providing opportunities for scientific communication is highly important to produce competent graduates. In that manner, the theme of the symposium "Optimal Health to Enjoy the Longevity" ascertains the importance of research in expanding the frontiers of healthcare for comprehensive well-being. Further, this also emphasizes the need for the enhancement of wisdom and energy of the younger generation to effectively confront the forthcoming challenges posed by population aging.

Hence, I take this opportunity to appreciate the time and efforts of the staff of FAHS and the members of the organizing committee in making this event a success. I wish to congratulate the young researchers who are presenting their valuable findings in this forum.

I wish this conference a great success and glories to God.

Prof. Sivakolundu Srisatkunarajah
Vice Chancellor,
University of Jaffna.

ISBN 978-624-6150-28-0

MESSAGE FROM THE DEAN

It is with great pleasure that I provide this message as the Dean of the Faculty of Allied Health Sciences for the 6th Undergraduate Research Symposium. This symposium, themed "Optimal Health to Enjoy the Longevity," holds immense implications in our academic calendar and serves as a platform for our undergraduate students to showcase their scholarly work. Further, it reinforces our collective dedication to advancing knowledge in the field of Allied Health Sciences.

The symposium offers our students a unique opportunity to present their research endeavours in Nursing, Pharmacy, and Medical Laboratory Sciences. Their contributions will undoubtedly enrich our understanding of key health-related issues and inspire innovative solutions to promote well-being and longevity. I believe that these types of research symposiums will guide our students to develop their writing skills, presentation skills, and build up their team spirit. I feel very happy to see the interest of all student researchers who used this opportunity to improve their knowledge and skills. The valuable research findings will help future nations to be involved in more research activities in the coming years.

I extend my sincere appreciation to the organizing committee and the supporters whose dedication and hard work have made this event possible. My special gratitude goes to our keynote speaker, Professor Monica Christova, and plenary speaker, Dr. Rasaratnam Karunaithas, for accepting our request to deliver their speeches at this symposium. I would like to thank all the reviewers of the undergraduate research symposium for reviewing the submissions and helping the symposium with the best quality papers.

I am confident that this symposium will serve as a successful stepping stone for all the participants.

Thank you, and best wishes for a fruitful symposium!

Mrs. Deivy Thabotharan
Dean, Faculty of Allied Health Sciences,
University of Jaffna.

ISBN 978-624-6150-28-0

MESSAGE FROM THE SYMPOSIUM CHAIR, 6TH URS 2024

It is my pleasure to convey this message to the proceedings of the 6th Undergraduate Research Symposium (URS) 2024, hosted by the Faculty of Allied Health Sciences (FAHS) at the University of Jaffna. The URS holds significant importance within the academic calendar of FAHS, having been a recurring event since 2018. Its primary objective is to develop a research culture by providing a platform for undergraduates to present their research findings.

The theme of this year's URS, "Optimal Health to Enjoy the Longevity," emphasises that while advancements in healthcare have extended our lifespan, the true enjoyment of this longevity requires optimal health across all facets of wellness. This theme encourages young Allied Health professionals to contemplate the holistic nature of healthcare. Research serves as a vital point for the creation of knowledge, empowering action and facilitating professional advancement. URS at the Faculty of Allied Health Sciences emphasises the significance of research among undergraduates. Also, it facilitates the development of communication skills and broadens perspectives through engagement in a scientific discourse.

On behalf of the URS 2024 Committee, I extend heartfelt gratitude to the Vice Chancellor of the University of Jaffna and the Dean of the Faculty of Allied Health Sciences for their unwavering support of this scientific endeavor. I would like to express my appreciation to our esteemed keynote speaker, Professor Monica Christova, whose expertise in geriatrics and healthy aging makes her an ideal fit for our theme. Her contributions to the field are invaluable, and we are honored by her acceptance of our invitation to deliver the keynote address.

Furthermore, I wish to acknowledge the dedication of the Organizing Committee, Academics, Administrative and supportive staff whose collective efforts have ensured the success of URS 2024. Finally, I extend my congratulations to the participating students for their enthusiastic engagement in this scientific event. Your contributions are vital to the advancement of knowledge and the betterment of healthcare practices.

Mr. Santhalingam Sathees
Symposium chair, 6th Undergraduate Research Symposium,
Faculty of Allied Health Sciences,
University of Jaffna.

ISBN 978-624-6150-28-0

MESSAGE FROM THE EDITOR, 6TH URS 2024

The 6th Undergraduate Research Symposium is organized by the Faculty of Allied Health Sciences (FAHS), University of Jaffna under the theme of 'Optimal Health to Enjoy the Longevity". This symposium is one of the good platforms for undergraduates of the FAHS to showcase their research works to the scientific community and gain experiences. There were 21 abstracts from the students of Medical Laboratory Sciences, Nursing and Pharmacy submitted to this symposium. All the abstracts were subjected to a blind review process by experts in relevant fields and accepted for the symposium in a revised format. This review process ensured the standard of the abstracts published in the symposium.

The editorial team would like to thank the authors who have submitted their research findings to this symposium as well as the reviewers who supported this symposium. Furthermore, as an editor, I appreciate everyone who provided their valuable inputs and suggestions to make this symposium proceedings at a maximum scientific standard level.

Dr. Rasaratnam Karunaithas
Editor, 6th Undergraduate Research Symposium,
Faculty of Allied Health Sciences,
University of Jaffna.

ISBN 978-624-6150-28-0

ABSTRACT OF THE KEYNOTE SPEECH

Empower Healthy Aging with Health Literacy

While living longer than ever is a reality, living longer in a good health still remains a challenge. Because of the growing number of elderly population worldwide and particularly Sri Lanka, being the fastest aging country in South Asia, health care (HC) professionals increasingly confront providing HC services to vulnerable client groups, such as older people, persons with lower socioeconomic status, and with chronic illnesses. These client groups typically show decreased knowledge and motivation to access, understand, and apply health information for taking decisions concerning their own health – a state defined as Health Literacy (HL). Limited HL levels vary between 25-75% worldwide. Inadequate HL is linked to reduced usage of health care services, increased morbidity and mortality, and higher health care costs. Persons with limited HL require individual therapeutic and communication approach from their HC providers. To respond this demand, HC professionals need to acquire solid HL competencies during their higher education. The HL contents currently offered in the most HC study programs, are insufficient to provide high quality care adequately to persons with limited HL.

Therefore, in the HELPE* project we developed a HL educational program which promotes the HL competencies HC students. The methodology was based on scoping review and co-creation design including focus groups and teaching/ learning activities with the key stakeholders. Main results include: HL competency framework to ensure high standard scientific background for the teaching contents and six educational courses. The HL contents offer flexible integration in the HC curricula and are expected to increase the awareness of HL importance. The developed HL contents will be incorporated in the CAPAGE** project which aims establishing sustainable innovation capacity for modernization of Sri Lankan higher and professional HC education in Healthy Aging and Geriatrics through coordinated interdisciplinary approach.

*Consortium HELPE Project "HEALTH LITERACY IN THE PHYSIOTHERAPY EDUCATION" supported by the Erasmus+ programme of the European Union (2020-1-AT01-KA203-078086).

M. Christova[1], M. Handgraaf[2], C. Fernández[3], A. Hagen[4], J. Luiken[4], P. Mäki-Natunen[5], S. Paasu-Hynynen[5], B. Jochamm[1], A. Arntz[2], C. Grüneberg[2]. [1]Institute of Physiotherapy, University of Applied Sciences FH JOANNEUM Graz, Austria, [2]Institute of Health, University of Applied Sciences, Bochum, Germany, [3]Blanquerna School of Health Science, Barcelona, Spain, [4]University of Applied Sciences, Utrecht, Netherlands, [5]University of Applied Sciences, Jyväskylä, Finland.

**Consortium CAPAGE Project "Promoting academic and professional excellence in health care to meet the challenges of aging in Sri Lanka", supported by the Erasmus+ programme of the European Union (101127234 -CAPAGE-ERASMUS-EDU-CBHE): Eastern University of Sri Lanka, General Sir John Kotelawala Defence University, Sri Lanka, JAMK University of Applied Sciences, Finland , Santa Maria Health School, Portugal, University of Applied Sciences FH JOANNEUM, Austria, University of Colombo, Sri Lanka, University of A Coruña, Spain, University of Jaffna, Sri Lanka, University of Peradeniya, Sri Lanka, University of Ruhuna, Sri Lanka.

Prof. Monica Christova
Associate Professor,
Institute of Physiotherapy,
FH Joanneum University of Applied Sciences, Austria.

ISBN 978-624-6150-28-0

ABSTRACT OF THE PLENARY SPEECH

Bioactive Peptides: A Novel Therapeutic Approach for Cancer

Cancer is a major healthcare problem in the world, causing one in every six deaths worldwide. The World Health Organization reported that the incidence rate of cancer is on an upward trend and is predicted to affect 35 million people in 2050. In Sri Lanka, based on the Ministry of Health report, 37,753 new cases were diagnosed in 2021, with an incidence rate of 103 new cases per day. There are various therapeutic options such as chemotherapy, radiational therapy, immunotherapy, targeted therapy, surgery, and stem cell transplantation available to treat different types of cancer; however, these treatment modalities are associated with various side effects, secondary cancers, and recurrence.

Bioactive peptides, small protein fragments derived from various natural sources, gained significant attention in recent years for their potential therapeutic applications, including cancer treatment. Due to their unique characteristics, these peptides offer several advantages in cancer treatment, including high specificity towards cancer cells, low toxicity to normal cells and the ability to penetrate biological barriers and target specific molecular pathways involved in tumour growth, metastasis, and angiogenesis. In this context, we also isolated and characterized an anticancer peptide VS-9 from Garlic (*Allium sativum*) protein hydrolysate. VS-9 exhibited anticancer potential against leukaemic cell lines K-562, MOLT-4 and NB-4 via interacting with antiapoptotic Bcl-2 family proteins. The protocol for isolating and characterizing the VS-9 peptide was patented under the Department of Intellectual Property, Thailand, in 2023.

Dr. Rasaratnam Karunaithas
Senior Lecturer in Medical Laboratory Sciences,
Faculty of Allied Health Sciences,
University of Jaffna.

ISBN 978-624-6150-28-0

LISTS OF ABSTRACTS

ISBN 978-624-6150-28-0

Proceedings of the 6th Undergraduate Research Symposium 2024 - FAHS, UOJ
ISBN 978-624-6150-28-0

Evaluation of total antioxidant activity of deproteinized and non-deproteinized polysaccharides extracted from leaves of *Hemidesmus indicus* (Nannari)

Salini N[1], Aberame S[1], Piriyanka N[1], Sivasinthujah S[1*], Senthilnanthanan M[2]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Department of Chemistry, Faculty of Science, University of Jaffna*

**ssinthujah@univ.jfn.ac.lk*

Introduction: Recently, polysaccharides derived from natural products have attained considerable attention as potent in vivo and in vitro antioxidants. *Hemidesmus indicus* is a plant valued for its diverse uses in traditional medicine such as detoxification, blood purification and overall body cleansing.

Objective: To quantify the total sugar content and assess the total antioxidant activity of deproteinized and non-deproteinized polysaccharides extracted from the leaves of *H. indicus.*

Methodology: The leaves of *H. indicus* collected from Jaffna, Sri Lanka were washed, shade dried and powdered. Then, the lipids and oligosaccharides found in the powdered leaf sample were removed using petroleum ether and 80% ethanol respectively. The resulting crude leaf product was extracted with hot water and half of the crude polysaccharide of the leaf sample was deproteinized with $CaCl_2$. Subsequently, the phenol-sulfuric acid method was employed to quantify the total sugar content in the deproteinized and non-deproteinized leaf extracts using glucose as the standard. Further, the total antioxidant capacities of the said extracts, in terms of ascorbic acid equivalent values, were determined by the phosphomolybdenum method.

Results: The total sugar contents in the deproteinized and non-deproteinized crude polysaccharide of *H. indicus* leaf sample were found to be 89.04% and 69.17% respectively. The ascorbic acid equivalent values of the deproteinized and non-deproteinized polysaccharides extracted from the leaves of *H. indicus* were found to be 50.481 and 61.722 mg/mL respectively.

Conclusion: The total sugar content of the deproteinized *H. indicus* leaf extract was found to be higher than that of the non-deproteinized extract. The antioxidant activity showed by non-deproteinized polysaccharide was higher than the deproteinized polysaccharide.

Keywords: Antioxidant activity, Polysaccharide, *H. indicus*, Ascorbic acid equivalent, Phosphomolybdenum method

ISBN 978-624-6150-28-0

Factors associated with knowledge on self-administration of eye drop instillation among Glaucoma patients attending Eye clinic, Teaching Hospital Jaffna

Ameliya Rachel JA[1*], Meera S[1], Jegapragash V[1], Malaravan M[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Teaching Hospital Jaffna*

**ameliyarachel06@gmail.com*

Introduction: At least 2.2 billion individuals suffer from glaucoma, which is an asymptomatic chronic eye illness leading to complete blindness. Increased intraocular pressure is a clinical contributor to glaucoma; thus, to reduce intraocular pressure, ocular hypotensive eye drops are most commonly used. Unlike oral medications, patients' knowledge on self-administration can lead to a great prognosis. As a result, good awareness, and support from healthcare professionals about eye drop instillation is crucial to lead a quality life in glaucoma patients.

Objective: To assess the knowledge of self-administration of eye drop instillation and the associated factors among glaucoma patients attending Eye clinic, Teaching Hospital Jaffna.

Methodology: A hospital-based descriptive cross-sectional study was carried out in 2023. A systematic random sampling method was used to identify 161 participants and an interviewer-administered questionnaire was used to collect the data. The chi-square test was performed in SPSS to find the association with knowledge and possible factors. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: The total sample size was 161. The respondent rate was 87.5%. The age of the participants varied from 26 years to 83 years old with a mean age of 58.93 (SD=15.40). More than half of the participants (54%) were female and the majority of them were married (76.4%). A small portion of participants (33.6%) have educational qualifications above ordinary level. Nearly half of the participants (48.4%) had poor knowledge about self-eye drop instillation and only 11.8% of the participants had good knowledge. Although 64.6% of the patients were unable to identify the name of the drug, they were using them. The factors associated with knowledge were age ($p<0.001$), educational qualification ($p<0.001$), employment status ($p<0.001$), previous health education ($p<0.05$) and duration of disease ($p<0.05$).

Conclusion: Knowledge on self-administration of eye instillation is poor among glaucoma patients who attend the Eye Clinic, Teaching Hospital Jaffna. It is recommended that healthcare providers should be more attentive towards patients' knowledge regarding eye drop administration. Interventions such as demonstration programs, proper health education and distributing handouts can be carried out in future.

Keywords: Glaucoma, knowledge, eye drop instillation

Proceedings of the 6th Undergraduate Research Symposium 2024 - FAHS, UOJ
ISBN 978-624-6150-28-0

The staining ability of natural flower extracts as alternative dyes for bacterial staining

Cafoor FN[1*], Najeem FN[1], Haseeb HF[1], Thillainathan K[1], Sivasinthujah S[2], Gnanakarunyan T[1]

[1]Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna
[2]Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna

**cafoornazlina@gmail.com*

Introduction: Gram staining is used as a routine stain in bacteriology. Synthetic stains are commonly used for Gram staining which were reported to cause adverse effects to the environment and user. The use of natural dyes for microbial staining could be eco-friendly and non-toxic. As a result, plant-derived dyes are proposed as alternative stains for staining microorganisms.

Objective: To investigate the potential of *Thunbergia erecta* and *Clitoria ternatea* flower extracts as alternative dyes for bacterial staining.

Methodology: *T. erecta* and *C. ternatea* flowers were dried and ground to get powder. Powdered petals were macerated with 90% methanol. The mixture was filtered and subjected to rotary evaporation under reduced pressure at 40^0C to obtain the crude extract. Extracts were used to prepare primary and counterstains. The staining abilities of all the stains were studied at different temperatures, times and finally with colour intensifiers and mordants. Gram staining was done using the optimum conditions obtained from simple staining such as room temperature as temperature and a staining time of 2 minutes along with mordant copper sulphate. Stained slides were examined under the microscope and the staining quality of stains was scored as Poor (1), Good (2) and Excellent (3). Obtained data were analyzed using the Statistical Package for Social Sciences (SPSS).

Results: Staining of bacteria using a primary stain prepared from *C. ternatea* showed a staining score of 2 in simple staining at room temperature for 2 minutes with copper sulphate as a mordant. Furthermore, results indicated that primary and counter stains prepared from *T. erecta* and counter stain prepared from *C. ternatea* did not produce good results in simple and gram staining when compared to control stains.

Conclusion: The primary stain prepared from *C. ternatea* stains bacteria well when compared to the counter stain prepared from *C. ternatea* and the primary and counter stains prepared from *T. erecta*. However, the efficacy of the staining is not up to the satisfactory level for gramstaining when compared to the conventional gram staining dye.

Keywords: Staining, *Thunbergia erecta, Clitoria ternatea*, Simple staining, Gram staining

ISBN 978-624-6150-28-0

Antibacterial and antioxidant activity of different solvent extractions of leaves and bark of *Erythrina variegata*

Thuvaragan S[1], Gnanakarunyan T[2], Bandaranayaka TD[1*], Horshington AS[1], Fernando KMO[1]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna*

**tharindudiasbandaranayaka@gmail.com*

Introduction: Plant-based antimicrobials have been proven to be a promising treatment option with several advantages, including fewer side effects and highly diverse pharmacological activities due to secondary metabolites. *Erythrina variegata,* known as the Coral tree, possesses many therapeutic activities, including antibacterial, antioxidant, anthelminthic, anti-inflammatory, and cytotoxic activities, and is frequently used in Siddha medicine. *Erythrina variegata* is widely distributed in Malaysia, Sri Lanka, and India.

Objective: To evaluate the antibacterial and antioxidant properties of different solvent extractions of leaves and bark of *Erythrina variegata.*

Methodology: Dried leaves and bark powder were macerated separately with water, ethanol, and ethyl acetate. The antibacterial activity of extracts was tested against *Staphylococcus aureus* and *Pseudomonas aeruginosa* using the agar well diffusion method, and the zone of inhibition for each extract was measured. Gentamycin and Ciprofloxacin were used as positive controls. The antioxidant activity of the extracts was determined by the DPPH (2,2-diphenyl-1-picryl-hydrazyl-hydrate) assay method, and ascorbic acid was used as standard. IC_{50} values of plant extracts and standard were measured. All the tests were triplicated. Independent samples t-test was used to compare the anti-bacterial activity with positive control at a 95% confidence level, and a p-value less than 0.05 was considered statistically significant. All the results were analysed using SPSS version 26.

Results: The highest antioxidant activity was observed with ethanol bark extract (IC_{50}=420.18 µg/ml), and leaf aqueous plant extract had IC_{50} of 528.74 µg/ml. Anti-bacterial activity of all extracts showed significant differences with positive controls ($p<0.05$). Ethyl acetate extract of leaves and bark showed the highest inhibitory activity against *Staphylococcus aureus* (18±1.00 cm), while ethanolic leaf extract showed the highest inhibitory activity against *Pseudomonas aeruginosa* (29.5 cm).

Conclusion: The plant leaves of *Erythrina variegata* had more anti-bacterial activity, while the bark of *Erythrina variegata* showed more antioxidant activity. Further studies are needed to identify the compounds responsible for the antioxidant and antibacterial activities of the plant.

Keywords: *Erythrina variegata,* Antioxidant activity, Antibacterial activity

ISBN 978-624-6150-28-0

Knowledge of preconception care among eligible women

Kayarupi K[1*], Thilini C[1], Kamalarupan L[1], Nivetha K[1]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*

**krishnamoorthy22jul@gmail.com*

Introduction: Preconception care (PCC) is the provision of biomedical, behavioral, and social health interventions to women and couples before conception occurs. It prevents maternal and perinatal complications and increases the possibility of healthy couples and healthy offspring.

Objective: To assess the knowledge of preconception care among eligible women in the Nallur MOH area, Sri Lanka.

Methodology: This was a community-based descriptive cross-sectional study among 422 eligible women. An interviewer-administered questionnaire was used for data collection. The data were analyzed using SPSS 20.

Results: The response rate was 100%. The mean age was 25.5 (SD=±2.259) years. The majority (96.2%) of them were Tamils and Hindus (86.7%). All participants were married, and the mean age of marriage was 20.4 years. 53.6% of them were from the nuclear family. 55.9% of them were aware of preconception care. Nearly 60% of the participants were aware of the targeted group of PCC. Most of them thought providing folic acid supplementation was the only objective of PCC, and the majority (60.4%) were aware of when to start it and the importance of it (76.3%). 38.9% of them knew the recommended age range for women for childbearing. Only 20.6% of participants were aware of the recommended BMI range for women for childbearing. 54.5% of them believed that personal hygiene could prevent sexually transmitted infections. Only 20.1% of participants knew their blood group was screened during PCC. The majority of them were aware that smoking (67.1%) or passive smoking (45.0%) is harmful during PCC. Only one-third of them had overall good knowledge, and the rest had poor knowledge of PCC.

Conclusion: Knowledge of preconception care is inadequate for the participants in the Nallur MOH area. It is important to conduct health education programs on preconception care in order to increase the awareness of eligible women.

Keywords: knowledge, preconception care, eligible women

ISBN 978-624-6150-28-0

Teak (*Tectona grandis Linn*) derived dye: an eco-friendly alternative for Eosin in histological staining

Manage TBM[1*], Dhanapala KMRI[1], Mahinda MTR[1], Rasaratnam K[1]

[1]*Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Jaffna*

**tilinimanage@gamail.com*

Introduction: Staining plays a pivotal role in the morphological evolution of tissue samples in histopathology. The combination of Hematoxylin and Eosin is the most common stain utilized for tissue staining. Hematoxylin, a nuclear stain, is a natural dye, whereas eosin is a synthetic dye. The use of synthetic dyes raises concerns about their harmful effects on both laboratory workers and the environment. Consequently, finding an alternative eco-friendly natural dye to replace eosin is inevitable to improve the laboratory diagnosis in histopathology.

Objective: To evaluate the staining efficacy of a dye isolated from *Tectona grandis Linn.* on tissue samples.

Methodology: Young leaves of *T.grandis Linn*. were collected and washed with tap water. The cleaned leaves were subjected to drying in an oven at 40°C and ground into fine powder. The extract was obtained by combining the dry plant material with 96% ethanol at 60°C for 4 hours and allowed at 25°C for12 hours. The mixture was filtered through Whatman paper followed by centrifugation at 5000 rpm for 15 minutes. The collected supernatant was removed using a Rotary evaporator and redissolved in absolute methanol to a final concentration of 20mg/ml. The staining ability of the dye was evaluated on 5 µm thick sections of human appendix tissues.

Results: The findings demonstrated that the dye isolated from young leaves of Teak exhibits a staining potential on appendix tissues. Particularly, the staining ability of *T. grandis Linn* derived dye at a concentration of 20 mg/ml on tissue samples was comparable to those stained by Eosin.

Conclusion: A dye extracted from *T. grandis Linn.* exhibits notable staining potential on histological tissues which could be utilized as an alternative eco-friendly natural stain for histological staining.

Keywords: Staining, *Tectona grandis Linn*, Histological tissues, Dye, Eosin

ISBN 978-624-6150-28-0

Evaluating the perception about the role of nuclear pharmacists among pharmacists in Northern Province, Sri Lanka

Praveena Priyadharshini A[1*], Dhanushika Kumari OW [1], Ranathunga RMCH[1], Kalki P[1], Yoganathan T[2], Jeyanthan M[3]

[1]Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna
[2]Unit of Nuclear Medicine, Faculty of Medicine, University of Jaffna
[3]Medical Clinic, Teaching Hospital, Jaffna

**praveenaveena540@gmail.com*

Introduction: Nuclear pharmacy is a special field in pharmacy practice that requires specially trained nuclear pharmacists to handle radioactive substances. Due to ignorance, unfavourable opinions about nuclear pharmacy practice, and the role of nuclear pharmacists, fewer pharmacists are working in this field.

Objective: To evaluate the perception of pharmacists about the role of Nuclear Pharmacists.

Methodology: A cross-sectional descriptive study was carried out from November 2022 to November 2023 among 70 registered Pharmacists employed at government hospitals in Northern Province, Sri Lanka. A Self-administered questionnaire was used to collect data from pharmacists to assess the perception. Data was analyzed based on the research problem and objectives using Statistical Package for Social Sciences software.

Results: In this study, 90.41% (n=66) of the participants responded. The majority of them were young age (72.7%), females (71.2%), married (60.6%), Sri Lankan Tamil (83.3%), and Hindus (68.2%). The majority of the participants had obtained a diploma (60.6%) whereas the remaining participants had earned a bachelor's degree. The majority had less than 10 years of working experience (45.5%), the professional position was Grade 3 (39.4%), worked in an indoor pharmacy (38.1%), participated in health-related programs (56.15%), studied related to radiopharmacy (59.1%) and have not worked as a nuclear pharmacist (92.4%). Out of the total 66 participants, 69.7% (n = 46) had a positive perception, whereas 30.3% (n = 20) had a negative perception. The findings of this study revealed that Age, gender, ethnicity, religion, marital status, educational level, years of work experience, professional position, present area of practice, participation in health-related programs, study related to nuclear pharmacy, and work experience in nuclear pharmacy were not influenced on the level of Perception ($p>0.05$).

Conclusion: The present study revealed that the majority of the pharmacists in the Northern Province had a positive perception about the role of Nuclear Pharmacists.

Keywords: Nuclear Pharmacists, Perception, Northern province

ISBN 978-624-6150-28-0

The influence of sociodemographic factors on parental involvement in academic lives of undergraduate students at University of Jaffna

Dhanakgedra P M[1*], Deepashika K A T M[1], Thabotharan D[1], Kamalarupan L[1]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*

**pramodyamadhubashini96@gmail.com*

Introduction: Parental involvement in the academic lives of undergraduate students is a multifaceted phenomenon influenced by various factors. As students navigate their educational journey, the level of engagement from parents can play a pivotal role in shaping outcomes. Parental involvement takes on various forms of offering guidance and emotional support and providing financial resources. Well-established parental support during the university years can positively influence on academic achievement and personal development.

Objective: To assess the influence of sociodemographic factors on parental involvement in the academic lives of undergraduate students at University of Jaffna.

Methodology: A descriptive cross-sectional study was conducted among 426 undergraduates, who were studying in the selected faculties and units at the University of Jaffna from January 2023 to November 2023. The relevant data was collected using a self-administered questionnaire and data analysis was done using SPSS 25. To assess the significance of sociodemographic factors on parental involvement levels among University of Jaffna students, a Chi-square test was conducted.

Results: Among the 426 participants, nearly two-thirds of them were females (62.2%) and the majority of them (63.6%) were under the age of 24 years. The age range of the participants was 21 to 28 years and the mean age of 23.45 (SD±1.832). Tamil: Sinhala students' ratio was 3:1. Among the 426 participants, 41.5% were staying at the University Hostel, 34.5% were staying in the Boarding House, and 23.9% were staying with their parents. More than half of them (58.5%) had a good level of parental involvement while 24.2% had an excellent level of parental involvement. Among sociodemographic factors, gender, ethnicity, faculty, academic year, and current residence were significantly associated ($p<0.05$) with parental involvement.

Conclusion: Parental involvement of the parents of these populations is very high. The study recommends that parental involvement can be focused on establishing clear communication channels, organizing orientation programs for parents, and creating platforms for ongoing collaboration between parents and the university to support students' holistic.

Keywords: parental involvement, academic lives, undergraduates, university of Jaffna

ISBN 978-624-6150-28-0

Physicochemical and Phytochemical screening of '*Neerizhivu Chooranam* 1' used for Diabetes Mellitus in Northern Province, Sri Lanka

Merin Dinushiya J[1], Nilanusha S[1], Sugansika M[1], Sivasinthujah S[1*], Sivarangini S[2], Ravimannan N[3]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Unit of Siddha Medicine, University of Jaffna*
[3]*Department of Botany, Faculty of Science, University of Jaffna*

**ssinthujah@univ.jfn.ac.lk*

Introduction: *Neerizhivu Chooranam* 1 is a polyherbal drug, mainly consists of *Terminalia chebula*, *Embilica officianalis* and *Murraya koenigii*and it is called as *Mathumaeha Choornam*. This medication is especially used in treating Diabetes Mellitus in Siddha Medicine in Sri Lanka and is given to the patients as a powdered formulation. There is a necessary to analyse the physicochemical properties and phytochemicals as there is no evidence of previous data and for its acceptability and safety for stakeholders.

Objective: To evaluate the physicochemical and phytochemical analysis of *Neerizhivu Chooranam* 1.

Methodology: The plant parts were collected separately in Jaffna, shade dried and powdered. The powdered plant parts were mixed in a ratio of 1:1:1 and sieved using 44 mesh sieves. The powdered drugs were subjected to physicochemical tests such as pH value, moisture content, total ash value, water soluble ash value, acid insoluble ash value, water-soluble extractives and ethanol soluble extractives. Preliminary phytochemical screening was done for the methanol extract obtained by maceration of the crude drug. All analyses were undertaken in triplicate and quantity values were presented as mean ± standard deviation.

Results: The pH value, moisture content, total ash value, water soluble ash value, acid insoluble ash value, ethanol soluble extractives and water-soluble extractives were found to be 3.550±0.020,10.447±0.058%, 5.583±0.144%, 2.650±0.328%, 0.317±0.029%, 5.9730±1.921% and 20.400±0.812%, respectively. The preliminary screening of phytochemicals indicated the presence of alkaloids, flavonoids, carbohydrates, reducing sugars, tannins, steroids, proteins, amino acids, glycosides, phenol, terpenoids and anthraquinones.

Conclusion: The values obtained from the tests showed good quality of the formulation as per the previous standard relating to the powder polyherbals formulation and these values for the *Neerizhivu Chooranam* 1 can be used as reference standard in future.

Keywords: Diabetes Mellitus, Polyherbal, *Neerizhivu Chooranam*, Physicochemical, Phytochemical

ISBN 978-624-6150-28-0

Types of bacterial contaminations, antibiotic sensitivity patterns and their influencing factors of wrist threads worn by students of Faculty of Allied Health Sciences, University of Jaffna

Anuththara SHS[1*], Wijerathna RMLTN[1], Ambalavanar V[2]

[1]*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Department of Microbiology, Faculty of Medicine, University of Jaffna*

**sandunianuththara7@gmail.com*

Introduction: People of different religions wear wrist threads believing that it brings happiness, protection, good health, and spiritual strength. Wrist threads worn by healthcare personnel can harbour potential pathogens which can serve as vectors of infectious agents.

Objective: To determine the types of bacterial contamination, antibiotic sensitivity patterns and their influencing factors of wrist threads worn by students of the Faculty of Allied Health Sciences, University of Jaffna.

Methodology: It was a laboratory-based descriptive cross-sectional study done with 256 participants. A simple random sampling method was used for sample recruitment. Swabs were collected from the wrist threads using sterile cotton swabs moistened in sterile normal saline from August to September 2023. Data on influencing factors were collected using self-administered questionnaires. Isolated bacteria were identified according to the laboratory manual of the Sri Lanka College of Microbiologists whereas antibiotic sensitivity tests were performed according to the Clinical and Laboratory Standards Institute (CLSI) guidelines. Data were analysed using SPSS 20.

Results: Of the 256 wrist threads tested, 248 (97%) were contaminated with bacteria. Coagulase-negative Staphylococci were the most abundant isolates found in 202 (78.90%) wrist threads. Moreover, *S.aureus* in 6 (2.34%), Micrococci in 172 (67.18%), environmental Gram-positive bacilli in 94(36.71%) and skin commensal *Corynebacterium spp.* in 51(19.92%) were also found as contaminants. All isolated *S. aureus* were sensitive to gentamicin, cefoxitin, erythromycin, ciprofloxacin, and clindamycin. There was no statistically significant association between contamination and associated factors.

Conclusion: The majority of wrist threads are contaminated with potentially pathogenic bacteria; as a result, wrist threads can act as reservoirs of potentially pathogenic organisms. Therefore, it is recommended to wear it in a non-exposed location.

Keywords: wrist thread, bacterial contamination, antibiotic sensitivity patterns, University of Jaffna

ISBN 978-624-6150-28-0

Factors associated with quality of life of breast cancer patients who have completed treatment at Oncology clinic, Teaching Hospital Jaffna

Vishnuveni K[1*], Puvithira T[1], Jegapragash V[1], Thanenthiran AJ[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna,*
[2]*Teaching Hospital, Jaffna*

**veni1496@gmail.com*

Introduction: The most prevalent malignancy diagnosed in women is breast cancer. Improvements in diagnosis and treatment have significantly increased breast cancer survival rates. Despite the improvements, it has negative impacts on the Quality of life (QOL) of patients. Identifying the factors associated with QOL may offer insights into how to manage and care for patients with breast cancer.

Objective: To assess the QOL and its associated factors in breast cancer patients who have completed treatment at the Oncology clinic, Teaching Hospital Jaffna.

Methodology: A hospital-based descriptive cross-sectional study was conducted among 114 breast cancer patients who have completed 6-month surveillance from initial treatment at the Oncology clinic, Teaching Hospital Jaffna. An interviewer-administered questionnaire was used to collect the data. The WHOQOL-BREF was used to assess the QOL of the participants. The data were analyzed by using IBM SPSS version 27. The variables were described by descriptive statistics and Whitney and Kruskal statistical test was used to find the associated factors. The ethical clearance was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Jaffna.

Results: The mean age of the participants was 57 years (SD=11.876) and all the participants were female. The overall QOL of the participants was 55.98 ±SD 14.107. The median scores of Physical, Psychological, Social and Environmental domains were 56.0 (43.3- 69.0), 56.0 (44.0- 69.0), 51.0 (44.0- 69.0) and 56.0 (50.0- 69.0) respectively. 30-59 aged group patients had higher physical, psychological and environmental QOL. Unmarried women had better social QOL. The patients with good family support had higher QOL in all domains. The overall QOL was significantly associated with the level of education, occupation, monthly income, family support, comorbidities, and chemotherapy.

Conclusion: The overall QOL (55.98 ± 14.10 out of 100) and the QOL domains were average in this study.

Keywords: Quality of life, Breast cancer, WHOQOL-BREF, Domain.

ISBN 978-624-6150-28-0

Isolation of *Streptococcus mutans* from dental caries and *in-vitro* assessment of their antibiotic sensitivity pattern

Wathooth AMA[1], Ashra MRF[1], Mufeena MMF[1*], Gnanakarunyan TJ[1], Shamil Mafras FS[1], Jayatilake JAMS[2], Rajanthi Ramachandran[3], Thayalini T [4]

[1]*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna,*
[2]*Department of Oral Medicine and Periodontology, Faculty of Dental Sciences, University of Peradeniya*
[3]*Teaching Hospital Jaffna*
[4]*Unit of Siddha Medicine, University of Jaffna*

**mubeenaf68@gmail.com*

Introduction: Dental caries, primarily caused by *Streptococcus mutans*, poses a global oral health challenge. Early detection of antibiotic resistance patterns in *Streptococcus mutans* and implementation of effective prophylactic therapy is crucial for the prevention of systemic complications, including infective endocarditis.

Objective: To isolate *Streptococcus mutans* from dental caries in patients attending Dental clinic, Teaching Hospital, Jaffna and to evaluate their antibiotic sensitivity pattern.

Methodology: A study was conducted among 120 patients selected by systematic sampling method from the Dental clinic, Teaching Hospital, Jaffna during September-October 2023. Samples were collected and transported in Brain Heart Infusion broth to the laboratory within 1-2 hours and incubated at 37℃ for 24 hours inside the 5-10% CO_2 incubator. Samples were plated on Mitis Salivarius agar with bacitracin 0.2U/mL and 20% sucrose. *Streptococcus mutans* strains were identified based on their characteristic colony morphology compared with standard strain (ATCC 700610) grown on the same medium. Selected colonies were confirmed by Gram staining and biochemical tests. Antibiotic susceptibility test was performed by using Amoxicillin (25µg), Co-amoxiclavulanic acid (30 µg), Erythromycin (15 µg) and Clindamycin (2 µg) by using CLSI guidelines.

Results: Among 109 positive cultures, *Streptococcus mutans* were isolated from 84 (70%) samples. The highest susceptibility was observed for Amoxicillin with a 33.96 ± 6.5 mm mean zone of inhibition followed by Co-amoxiclavulanic acid with a 32.32 ± 5.9 mm mean zone of inhibition. Also in our study, the antibiotic resistance rates for Erythromycin were 21.43% and Clindamycin was 16.67%.

Conclusions: *Streptococcus mutans* is a common pathogen associated with dental caries, with an isolation rate of 70% (84/120) in this study. Amoxicillin can be used as an effective antibacterial drug to treat caries. The findings will provide valuable insights into the microbiology of dental caries, informing preventive and therapeutic strategies.

Keywords: Dental caries, *Streptococcus mutans,* Antibacterial susceptibility test

ISBN 978-624-6150-28-0

The characteristics of knee pain and associated socio-demographic factors among the patients attending the Orthopedic clinic in Teaching Hospital Jaffna

Illangasinghe IMTM[1]*, Zakee SM[1], Kamalarupan L[1], Gobyshanger T[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Teaching Hospital, Jaffna*

**thiliniillangasinghe@gmail.com*

Background: Knee pain is a prevalent musculoskeletal symptom across all age groups, significantly impacting daily activities and quality of life. Various risk factors are associated with knee pain.

Objective: This study aims to evaluate the characteristics of knee pain and its association with socio-demographic factors among patients attending the Orthopedic Clinic at Teaching Hospital, Jaffna.

Methodology: A descriptive cross-sectional study was conducted among 426 patients experiencing knee pain. Participants were selected using a systematic random sampling method from the orthopedic clinics. Data collection was done with an interviewer-administered questionnaire. Ethical clearance was obtained from the Ethical Review Committee, Faculty of Medicine, University of Jaffna. Data analysis was performed using SPSS 20, with the severity of knee pain assessed using a numerical pain scale (Mild: 1-3, Moderate: 4-6, Severe: 7-10). Chi-square tests and univariate analysis were employed to determine associations and describe knee pain characteristics, respectively.

Results: The participants' ages ranged from 19 to 93 years, with a mean age of 58.47 years (SD=14.832). The majority were females (59.4%) and Sri Lankan Tamils (96.7%). Most participants earned between 5000 and 10000 Sri Lankan Rupees per month (48.8%), with 29.6% earning less than 5000 Sri Lankan Rupees per month. The highest level of education for most participants was up to the Ordinary level (48.6%). The majority (91.8%) reported moderate or severe pain, with around half of them experiencing knee pain bilaterally (50.2%). Statistically significant relationships were observed between the severity of knee pain and various socio-demographic factors, including age, gender, per capita monthly income, educational level, type of occupation, and daily work activities.

Conclusion: The majority of participants reported moderate or severe knee pain, which was significantly associated with various socio-demographic factors. Recommendations include advising the target population to avoid prolonged standing or sitting with knee flexion based on their occupation.

Keywords: Knee Pain, Orthopedic Patients, Orthopedic Clinic, Teaching Hospital Jaffna

ISBN 978-624-6150-28-0

In-vitro anti-fungal activity of different extracts of leaf of *Vateria copallifera*

Saara F[1], Aamila N[1], Jifla J[1], Sivasinthujah S[1*], Jeyaseelan EC[2]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Department of Botany, Faculty of Science, University of Jaffna*

**ssinthujah@univ.jfn.ac.lk*

Introduction: The increased prevalence of fungal infections is attributable to an increase in the number of immunocompromised hosts. Bioactive compounds present in the plants are used as models for the synthesis of medicinal compounds. *Vateria copallifera* is an endemic plant in Sri Lanka which has been used to treat various ailments in Ayurvedic medicine. As per our knowledge, the anti-fungal activity of this plant has not been investigated so far.

Objective: To evaluate the anti-fungal activity of different extracts of leaf of V. copallifera against *Candida albicans* and *Aspergillus niger*.

Methodology: The leaves of the plant were collected from the Kalutara district of Sri Lanka and shade-dried and powdered. The powder was macerated with methanol and acetone separately for two days. Solvents were removed from the filtrate using a rotary evaporator under reduced pressure. Anti-fungal activity of the extracts of leaf was determined against *A. niger* and *C. albicans* using agar well diffusion technique by employing itraconazole and fluconazole as standard. The diameter of the zone of inhibition of different extracts was measured and the data were examined by Analysis of Variance (ANOVA) followed by Tukey's test at 5% significance level.

Results: Mean values of zones of inhibition against *A. niger* for the methanol and acetone extract of leaf at concentrations of 100 mg/mL were 17.00 ± 2.78 mm and 19.33 ± 1.15 mm, respectively. Whereas the Itraconazole at the concentration of 1 mg/mL was found to be 30.00 ± 5.00 mm. The mean values of inhibition zones against *C. albicans* for the methanol and acetone extract of leaf was 20.50 ± 2.00 mm and 15.50 ± 1.80 mm, respectively. Whereas Fluconazole at the concentration 1 mg/mL was found to be 14.33 ± 0.57 mm. Among the different extracts of leaf, the acetone extract showed the highest activity against *A. niger* and the methanol extract showed the highest activity against *C. albicans*

Conclusion: All the extracts of leaf of *V. copallifera,* exhibited anti-fungal activity against *A. niger* and *C. albicans.* Further, these extracts could be used to screen the specific bioactive compounds which are responsible for their antifungal activity.

Keywords: *Vateria copallifera,* leaf, anti-fungal activity*, Candida albicans and Aspergillus niger*

ISBN 978-624-6150-28-0

Prevalence of migraine and its associated factors among undergraduate students at the Jaffna premises of University of Jaffna, Sri Lanka

Rathnayaka ALU[1*], Weerasingha DH[1], Jegapragsh V[1], Jeevagan V[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Teaching Hospital, Jaffna*

**rmaravindalahiru@gmail.com*

Introduction: Migraine is a neurological condition categorized as a primary headache disorder by the International Classification of Headache Disorders (ICHD-3). Migraine affects about 30% of the global population; particularly, students seem to be more susceptible, with rates of 20% to 52%. Academic stress, irregular lifestyles, and genetics increase the risk for migraine and found to negatively impact academic performance and quality of life.

Objective: To determine the prevalence of migraine and its associated factors among undergraduate students at the Jaffna premises of University of Jaffna, Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted among undergraduates at University of Jaffna. A total of 464 students were recruited from selected faculties using a proportionate random sampling method. To gather data, a self-administered questionnaire was used. The data was analyzed using SPSS 27. A chi-square test was performed to identify the associated factors. Ethical approval for the study was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Jaffna.

Results: This study investigated migraine prevalence in 464 participants including the age range from 20 to 28 years (mean age: 23.94, SD=1.839). Female: Male ratio is 1:1. Overall, the prevalence of migraine is 7.5%. Prevalence was highest in ages 26-28 (11.88%), females (11.44%) and undergraduates following medical-related courses (25.74%). Obesity (9.41%) and overweight (8.22%) exhibited higher prevalence variations. Also, those with a family history of migraine, inadequate sleep, and lack of exercise had a high prevalence. The identified factors associated with migraines include gender ($p=0.001$), marital status ($p<0.001$), course of study ($p<0.001$), family history of migraines ($p<0.001$), duration of sleep ($p<0.001$), tea/coffee consumption ($p=0.045$), and exposure to strong odours ($p=<0.001$).

Conclusion: The overall migraine prevalence was 7.5% including higher rates among females, married individuals, and those with a family history of migraines. Lifestyle factors, including inadequate sleep and exposure to strong odors, also play a role. This study highlights the role of demographic factors and lifestyle choices in understanding migraine prevalence by informing targeted preventive measures.

Keywords: Migraine, Undergraduates, Prevalence, Headache, Factors

ISBN 978-624-6150-28-0

In-vitro evaluation of antioxidant property of different parts of *Momordica balsamina* using ferric reduction antioxidant assay

Amirthavarshini A[1], Abisha S[1] Nushrath K LF[1] Sivasinthujah S[1*], Srikaran R[2]

[1]*Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna,*
[2]*Department of Chemistry, Faculty of Science, University of Jaffna*

**ssinthujah@univ.jfn.ac.lk*

Introduction: Antioxidants are substances that can inhibit or delay unwanted reactions of oxidation through one or more mechanisms. Antioxidant phytochemicals found in medicinal plants could play an important role in the prevention and treatment of chronic diseases caused by oxidative stress. This study focused on evaluating the antioxidant properties of different parts of *Momordica balsamina* as its parts are traditionally used for treating diabetes in the northern province.

Objective: To evaluate the antioxidant activity of methanolic extracts of different parts of *Momordica balsamina*.

Methodology: Leaves, unripe fruits and ripened fruits of *M. Balsamina* were collected and allowed to dry in the shade and powdered. Powdered materials were extracted using maceration process with methanol. The mixtures were filtered, and solvents were evaporated using a rotary evaporator under reduced pressure. Methanolic extracts from different parts of *M.balsamina* were evaluated in triplicates for their antioxidant properties through ferric reduction antioxidant assay using ascorbic acid as a positive control. The antioxidant activity of plant parts was presented as ascorbic acid equivalents.

Results: The methanolic extract of ripened fruits, dried leaf and dried unripen fruits showed ascorbic acid equivalents of 56.6 µg/ 50 µg of dried sample, 23.1 µg/ 50 µg of dried sample and 25.7 µg/ 50 µg of dried sample respectively. Methanolic extract of unripe fruit showed the highest anti-oxidant potential among the three extracts.

Conclusion: Methanolic extracts of leaf, unripe fruit and ripened fruit of *M.balsamina* were found to have reduction potential and antioxidant capacity. Further studies are needed to screen the specific bioactive compounds which are responsible for their antioxidant activity.

Keywords: *Momordica balsamina,* Antioxidant, Ferric reduction

ISBN 978-624-6150-28-0

Prevalence and maternal factors associated with preterm birth at Teaching Hospital Anuradhapura, Sri Lanka

Dharmadasa UK[1*], Premathilake SMSP[1], Kamalarupan L[1], Sathees S[1]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*

[*]*kaushalyasithu78@gmail.com*

Introduction: Preterm birth is one of the primary causes of newborn morbidity and mortality. Preventing preterm birth is the public health importance worldwide. The aim of the study is to determine the prevalence and associated factors with preterm birth at Teaching Hospital Anuradhapura, Sri Lanka.

Objective: To assess the prevalence and maternal factors associated with preterm birth at Teaching Hospital Anuradhapura, Sri Lanka.

Methodology: This hospital-based descriptive cross–sectional study was conducted at three postnatal wards, Obstetrics and Gynecology unit at Teaching Hospital Anuradhapura. Data was collected from all the mothers admitted to the postnatal wards (n=597) following delivery from 1st October to 1st November 2023 by using an interviewer-administered questionnaire. The results were analyzed by chi-square test and Fisher exact using SPSS version 23.

Results: Preterm birth prevalence was 9.54%. Most of the mothers (80.6%) were between the ages of 20-34 years. Of them 99.7% were married and 78.2% of mothers were housewives. Pregnancy complications such as Prelabor Rupture of Membrane, Pregnancy Induced Hypertension, placental abruption, oligohydramnios, cervical incompetence, chorioamnionitis, and vaginal candidiasis were significantly associated (P= 0.094; 98% CI) with preterm birth. Mode of delivery, presence of multiple gestation, previous history of preterm labour, Previous history of Gestational Diabetes Mellitus, consanguinity, had stressful events during pregnancy were also significantly associated with preterm birth (P<0.05). Age, marital status, level of education, family income, gravidity, anaemia, antenatal care visits, pre-conceptional folic acid usage, interpregnancy interval, and sexually transmitted diseases were not significantly associated with preterm birth.

Conclusion: The prevalence of preterm birth was 9.54%. Some factors related to preterm delivery were identified in this study. It is recommended that improving pregnant women's health status may serve as a protective factor for reducing preterm births in future.

Keywords: Preterm birth, Pregnancy complications, Teaching Hospital Anuradhapura

ISBN 978-624-6150-28-0

Knowledge and practice on muscle cramps and their influencing factors among the school cricketers in Jaffna Educational Zone

Abeysinghe AHMCI[1*], Abayasinghe BTS[1], Thabotharan D[1], Sabaananth S[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Sport Science Unit, Faculty of Allied Health Sciences, University of Jaffna*

**Chethrakaabeysinghe@gmail.com*

Introduction: Cricketers often face muscle cramps, leading to considerable pain during games. School cricketers, with limited knowledge and practice, are particularly at risk; therefore, evaluating their knowledge and practice on muscle cramps is essential to prevent muscle cramps during competitions.

Objective: To assess the knowledge and practice on muscle cramps and their influencing factors among the school cricketers in Jaffna Educational Zone.

Methodology: A descriptive cross-sectional study was done among 382 school cricketers who played for the school teams of Jaffna Educational Zone. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna, and the participation was selected after getting informed consent. A pre-designed and validated self-administered questionnaire was used to assess the participants' knowledge and practices related to muscle cramps over one month. The data was analysed by using SPSS 27 and a Chi-Squared test was performed to identify the influencing factors.

Results: The mean age of the participants was 16 (SD=2.244). All the respondents were male and played under 19 cricket teams. Among the participants, 87% had good knowledge of muscle cramps while. 61.3% had good practice. Furthermore, 45% of participants experienced muscle cramps in their cricketing career. A statistical significance association (p=0.027) was found between muscle cramps and warm-down or cooling exercises. However, stretching exercises, conditioning exercises and recovery sessions were not statistically significant with muscle cramps occurring in cricketers.

Conclusion: The knowledge and practice of muscle cramps among school cricketers in the Jaffna educational zone are 87% and 61.3%, respectively. It is recommended to do an awareness program among school crickets to further improve their knowledge and practices on muscle cramps to prevent them from muscle injuries.

Keywords: Muscle cramps, School cricketers, Knowledge, Practice, Jaffna Educational Zone

ISBN 978-624-6150-28-0

Knowledge on febrile convulsion among the parents of under-five children attending for vaccination in Jaffna MOH clinics

Marin Difna M[1*], Dileetha E[1], Kamalarupan L[1], Sanchayan K[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Department of Pharmacology, Faculty of Medicine, University of Jaffna*

[*]*difnamariathas@gmail.com*

Introduction: Febrile convulsion, a common neurological disorder in under-five children, can be distressing for parents. Inadequate awareness of parents may hinder effective management.

Objective: To assess the knowledge on febrile convulsion among the parents of under-five children attending for the vaccination in Jaffna MOH clinics.

Methodology: An institutional-based descriptive cross-sectional study was carried out among 422 parents of under-five children attending for the vaccination in Jaffna MOH clinics. A pretested and validated interviewer-administered Tamil questionnaire was used to collect the data. Data was analyzed by using SPSS version 27 and presented through mean, standard deviation, frequency, and percentage. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: The mean age of the participants was 31 years (SD- 5.237). The male-to-female ratio was 1:3. The mean knowledge score of them was 20.41 (SD- 3.948) out of a total knowledge score of 36. Notably, 36.5% reported that they had personal experience with febrile convulsions, mostly coinciding with their child's experience. The most common age of occurrence of febrile convulsion is from 6 months to five years was identified by half of them. The common risk factors identified by them were: high fever (71.1%), viral infection (48.1%) and family history of febrile convulsion (43.8%). Major symptoms identified by many were: teeth clenching (77%), saliva drooling (77%), muscle twitching (59%) or stiffening (61.6%), and loss of consciousness (50.2%). Nearly half believed every child with febrile convulsions would experience a future episode. Misconceptions regarding management techniques, such as position the patient to the left lateral side (alongside other actions like immobilization, shaking, using metal rods, and mouth-to-mouth resuscitation), underscore the importance of specific and focused education on these topics.

Conclusions: Study findings emphasize the crucial requirement for focused education to improve parental comprehension of febrile convulsions and its management.

Keywords: Febrile convulsion, knowledge, fever

ISBN 978-624-6150-28-0

Dietary supplement usage and their association with sociodemographic factors among gym male participants in selected areas of the Jaffna district

Ananthakrishnan G[1*], Rajeevan S[1], Thabotharan D[1], Ahilan B[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2]*Sports Science Unit, Faculty of Allied Health Sciences, University of Jaffna*

**ananthb4554@gmail.com*

Introduction: The prevalence of dietary supplement usage for fitness objectives is rising, particularly among gym participants, and is influenced by diverse sociodemographic factors. Recognizing these connections is important for planning interventions to enhance health outcomes and facilitate informed decision-making within this demographic.

Objective: To assess dietary supplement usage and the association with socio-demographic factors on supplement utilization among male gym participants in the Jaffna district.

Methodology: A descriptive cross-sectional study was conducted among gym attendees in Jaffna, including Nallur, Kopay, Chavakachcheri, and Point Pedro. Male participants aged 18 to 60 years were randomly selected. Data was collected via interviewer-administered questionnaires. Statistical analysis was performed using SPSS 20 software, and ethical clearance was obtained from the Ethical Review Committee, Faculty of Medicine, University of Jaffna.

Results: The study comprised 422 participants with a 100% response rate. A majority (50.7%) were classified as overweight, and 62.8% were aged over 35 years. Most participants did not utilize supplements; among those who used supplements with the primary focus on bodybuilding. Dietary supplement usage exhibited significant associations with age ($p<0.001$), BMI ($p<0.001$), and education level ($p<0.001$).

Conclusion: Gym attendees use various supplements, predominantly for general fitness purposes. Sociodemographic factors such as age, BMI, and education level significantly influence supplement usage patterns among participants.

Keywords: Knowledge, Attitude, Practice, Dietary Supplements, Divisional Secretaries, Gym Participants

ISBN 978-624-6150-28-0

Factors associated with practice on self-administration of eye drop instillation among glaucoma patients attending Eye clinic, Teaching Hospital Jaffna

Meera S[1*], Ameliya Rachel JA[1], Jegapragash V[1], Malaravan M[2]

[1]*Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna*
[2] *Teaching Hospital Jaffna*

**meerasuntharraj@gmail.com*

Background: Glaucoma is a leading cause of blindness worldwide. Which requires almost life-long topical medication therapy. Unlike oral medications, while using eye drops the pharmacological action can be greatly diminished by undermedicated and overmedicated. Inadequate dispensing can also lead to bacterial infection. Adequate practice about self-administration of eye drops instillation is crucial for successful glaucoma management.

Objective: To assess the practice of self-administration of eye drop instillation and the associated factors among glaucoma patients attending Eye Clinic, Teaching Hospital Jaffna.

Methodology: A hospital-based observational descriptive study was carried out from September 2023 to October 2023. A systematic random sampling method was used to select 184 participants. An observational checklist was used to assess the practice of eye drop instillation. Data was analyzed by using SPSS version 27. The chi-square test was used find to the associated factors. Ethical approval was obtained from ERC, Faculty of Medicine, University of Jaffna.

Results: Glaucoma patients who attended the Eye clinic, Teaching Hospital Jaffna, were approached and the respondent rate was 87.5%. The age of the participants varied from 26 years to 83 years old with a mean age of 58.93 (SD=15.398). More than half (54%, n=87) of the participants were female and the majority of them were married (76.4%, n= 123). Only a small portion of participants have educational qualifications above ordinary level (33.6% n=38). Practice on self-administration was categorized as poor practice and good practice. Two-thirds of the participants were having poor practice in self-instillation (67.7% n=109). The factors associated with the practice were the frequency of eye drops per day (p=0.038) and Knowledge (p=0.006).

Conclusion: The practice of self-administration of eye drop instillation was poor among glaucoma patients who attended Eye Clinic Teaching Hospital Jaffna. The health care providers should be more attentive towards patients' practice regarding eye drop administration. Interventions such as asking patients how they take their eye drops and observing individuals' administration techniques are recommended.

Keywords: Glaucoma, knowledge, practice, instillation, Teaching Hospital Jaffna.

ISBN 978-624-6150-28-0

LIST OF REVIEWERS AND EVALUATORS

The URS 2024 committee acknowledge the following reviewers of the abstracts and the evaluators of the best presentation award for their valuable contribution to the URS 2024.

Reviewers:

1. Mrs. D. Thabotharan, Senior Lecturer, Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna.
2. Mrs. L. Kamalarupan, Senior Lecturer, Department of Nursing, Faculty of Allied Health Sciences, University of Jaffna.
3. Mrs. T. J. Gnanakarunyan, Senior Lecturer, Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna.
4. Mr. P. Kalki, Senior Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna.
5. Mr. S. Thuvaragan, Senior Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna.
6. Dr. (Mrs) S. Srikokulan, Senior Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna.
7. Mrs. P. Sathya, Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna.
8. Mr. S. Jeyakumar, Principal, College of Nursing, Jaffna.

Evaluators:

1. Prof. P. Iyngaran, Professor in Chemistry, Faculty of Science, University of Jaffna.
2. Dr. S. Sanchayan, Lecturer in Medical Education Unit, Faculty of Medicine, University of Jaffna.
3. Dr. (Mrs) T. Thileepan, Senior Lecturer, Unit of Siddha Medicine, University of Jaffna.
4. Dr. (Mrs). N. Umashankar, Consultant Paediatrician & Senior Lecturer in Paediatrics, Faculty of Medicine, University of Jaffna.
5. Dr. T. Yoganathan, Senior Lecturer, Nuclear Medicine Unit, Faculty of Medicine, University of Jaffna.
6. Mr. S. Thuvaragan, Senior Lecturer, Department of Pharmacy, Faculty of Allied Health Sciences, University of Jaffna.