International Conference on
Interdisciplinary Approaches in
Life Sciences and **Healthcare**

ICIALH 2025

International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare

26th–27th June, 2025
Bali, Indonesia

Organized by

IFERP Life Sciences
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Faculty of Medicine, Udayana University, Indonesia

Academic Partner

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Conference Theme

“Interdisciplinary Research for Global Health and Well-being”

Preface

We are delighted to extend a warm welcome to all participants attending International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH-2025), taking place in Bali, Indonesia on 26th & 27th June, 2025. This conference provides a vital platform for researchers, students, academicians, and industry professionals from all over the world to share their latest research results and development activities in the field of Life Sciences and Healthcare. It offers delegates an opportunity to exchange new ideas and experiences, establish business or research relationships, and explore global collaborations.

The proceedings for ICIALH-2025 contain the most up-to-date, comprehensive, and globally relevant knowledge in the field of Life Sciences and Healthcare. All submitted papers were subject to rigorous peer-reviewing by 2–4 expert referees, and the papers included in these proceedings have been selected for their quality and relevance to the conference. We are confident that these proceedings will not only provide readers with a broad overview of the latest research results in Life Sciences and Healthcare but also serve as a valuable sussssmmary and reference for further research in this field.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincerest gratitude and highest respect to the many professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also extend our appreciation to the external reviewers for providing additional support in the review process and to the authors for contributing their research results to the ICIALH-2025.

Since April 2025, the Organizing Committees have received more than 100+ manuscript papers, covering all aspects of ICIALH-2025. After review, approximately 50+ papers were selected for inclusion in the proceedings of ICIALH-2025. We would like to thank all participants at the conference for their significant contribution to its success.

We express our gratitude to the keynote and individual speakers and all participating authors for their dedication and hard work. We also sincerely appreciate the efforts of the technical program committee and all reviewers, whose contributions made this conference possible. Finally, we extend our thanks to all the referees for their constructive comments on all papers, and we express our deepest gratitude to the organizing committee for their tireless work in making this conference a reality.

About ICIALH 2025

International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH-2025), scheduled for June 26th and 27th, 2025, in Bali, Indonesia, aims to foster collaborative research for advancing global health and well-being. Centered around the theme "Interdisciplinary Research for Global Health and Well-being," this event provides an essential platform for researchers, practitioners, and scholars to share innovative ideas and explore integrative approaches to tackle pressing healthcare challenges. Attendees can engage in discussions on topics spanning biotechnology, public health, environmental science, and medical innovation, gaining insights from diverse perspectives. This conference promises valuable networking opportunities and exposure to pioneering research, promoting synergy across disciplines to drive impactful change in healthcare systems worldwide.

About IFERP Life Sciences

IFERP Life Science is a globally recognized professional association meant for research, innovation and development in the field of life sciences and medical sciences . It serves to propel and fuel all innovative works of research with immense potential in the fields of Healthcare, Life Sciences, Pharmaceutical Sciences, Medical Sciences, Food & Nutrition, Environmental Science, Oncology, Cardiology, Nursing, Microbiology, Physiotherapy, Dentistry and many more. IFERP Life Science has been directly responsible for a significant amount of the revolutionary developments that have taken place in these fields over the past few decades.

IFERP Life Science is a specialized platform that supports life science and medical professionals in advancing their careers and research impact. Our tailored solutions include international conferences, Faculty Development Programs, Webinars, author services, membership and scientific communications, designed to foster collaboration and knowledge-sharing within the global medical community

Message from **Vice Chancellor, Mahakaushal University**

Dr. R C Mishra

Hon'ble Vice Chancellor,
Mahakaushal University,
Jabalpur, India

It is with great humility, profound respect, and immense pleasure that I, Dr. R C Mishra on behalf of the Mahakaushal University, Jabalpur (MKU), extend our warmest welcome to you. We are truly honored to have you join us today at the International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH -25), a prestigious event that has become a beacon of hope, innovation, and collective action in the realm of biotechnology, public health, environmental science, and medical innovation. The Conference is hosted by IFERP Life Sciences and takes place on the 26th & 27th of June , 2025, a momentous occasion that marks yet another milestone in our ongoing journey to foster cross-disciplinary partnerships and push the boundaries of global health and sustainability.

On behalf of Mahakaushal University, it is an honor to participate in this esteemed gathering, which plays a pivotal role in driving innovation, advancing research, and fostering international collaboration in the field of biotechnology, public health, environmental science, and medical innovation .This hybrid conference offers a rich platform for presenting breakthrough studies, exploring current trends, and tackling pressing healthcare challenges.

Bringing together a distinguished community of professionals ICIALH-2025 promises to spark meaningful dialogue through panel discussions, interactive sessions, and technical presentations. Our shared mission is to encourage cross-disciplinary partnerships and push the boundaries of innovation for global health and sustainability. I am eager to contribute to these critical conversations and to engage with fellow participants in the energetic and diverse setting of Bali during the ICIALH - 2025.

Thank you for being a part of this remarkable event. I wish you a productive and enriching Conference experience.

With warm regards and best wishes!

R C Mishra

Message from **Managing Director, IFERP**

Mr. A. Siddth Kumar Chhajer

Managing Director & Founder,
IFERP, Technoarete Group

On behalf of Institute For Educational Research and Publications (IFERP) & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers.

The goal of the International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH-2025) is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries of Life Sciences and Healthcare.

This conference creates solutions in different ways and to share innovative ideas in the Life Sciences and Healthcare fields. ICIALH-2025 provides a world class stage to the Researchers, Professionals, Scientists, Academicians and Students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH-2025) will explore the new horizons of innovations from distinguished Researchers, Scientists and Eminent Authors in academia and industry working for the advancements in Food and Nutrition fields from all over the world. ICIALH-2025 hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in the Life Sciences and Healthcare fields.

Message from
Chief Executive, IFERP

Mr. Rudra Bhanu Satpathy

Chief Executive Officer & Founder,
IFERP, Technoarete Group

IFERP is hosting the International Conference on Interdisciplinary Approaches in Life Sciences and Healthcare (ICIALH-2025) this year in month of June, 2025.

The main objective of ICIALH-2025 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions.

The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader. I express my hearty gratitude to all my Colleagues, Staffs, Professors, Reviewers and Members of Organizing Committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.

About
Keynote Speaker

Dr. Tushar H Jaware

Dean- Research and Development,
R C Patel Institute of Technology,
Shirpur, India

Dr. Tushar H. Jaware holds a bachelor's degree in electronics and telecommunication engineering from North Maharashtra University, Jalgaon. He further pursued a master's degree in digital electronics and obtained a Ph.D. in medical image processing from Sant Gadge Baba Amravati University, Amravati. Currently serving as the Dean of Research and Development at the R. C. Patel Institute of Technology in Shirpur, Maharashtra, India, Dr. Jaware possesses over 18 years of invaluable teaching experience. He is widely recognized as a Ph.D. Supervisor in electronics engineering at North Maharashtra University, Jalgaon, and Dr. Babasaheb Ambedkar Technological University, Lonere. Furthermore, he has contributed as a Member of the Board of Studies in electronics and telecommunication engineering at North Maharashtra University, Jalgaon. Demonstrating his innovative prowess, Dr. Jaware holds three international and national patents, along with six copyrighted works. His research findings have been published in 62 esteemed research papers featured in renowned international journals and conferences. His expertise in the field has garnered invitations as a Plenary Speaker to numerous prestigious events. Dr. Jaware has been bestowed with several accolades, including the Loksatta Tarun Tejankit Award in 2019 and the GIS Young Innovator and Researchers Award (Central India) in 2018, presented by JSR Laboratory, Pune, in collaboration with the Asian Society for Scientific Research. He also received the esteemed 'Bright Researcher Award' from the International Institute of Organized Research in 2017. Additionally, Dr. Jaware has been honored with 12 awards recognizing his outstanding research and academic contributions by various societies. Notably, he has secured research grants from AICTE under the SPICES scheme and under the Unnat Bharat Abhiyaan initiative.

About
Keynote Speaker

Dr. Cokorda Bagus Jaya Lesmana

Professor, Department of Psychiatry,
Faculty of Medicine, Udayana University,
Bali, Indonesia

Prof. Dr. dr. Cokorda Bagus Jaya Lesmana, SpKJ (K), MARS is a leading figure in the field of cultural psychiatry in Indonesia. He currently serves as the Head of the Cultural Psychiatry Division at the Department of Psychiatry, Faculty of Medicine, Udayana University, Bali, and as Chair of the Cultural Psychiatry Section of the Indonesian Psychiatric Association (PDSKJI).

Since 2005, Prof. Lesmana has been deeply involved in community mental health initiatives with the Suryani Institute for Mental Health. His pioneering work began with identifying and providing care for people with chronic mental illness in remote areas of Bali, often encountering individuals who had been shackled or isolated for decades. These efforts highlighted critical gaps in Indonesia's mental health system, which traditionally relied heavily on hospital-based care. In response, he became a strong advocate for holistic, community-based mental health services that integrate medical care with cultural and spiritual approaches.

Prof. Lesmana has been instrumental in transforming psychiatric education at Udayana University, embedding cultural psychiatry and spirituality as key components of the curriculum. He has also led the development of community-based interventions that mobilize families, local doctors, and health workers, and has successfully rehabilitated hundreds of patients each year, freeing many from physical restraints and reintegrating them into society.

His innovative therapeutic approach includes the development of Spiritual Hypnosis Assisted Therapy (SHAT), which is designed to reframe traumatic memories — even those originating from the prenatal period — within a culturally sensitive, holistic framework. His work is guided by a mind-body-spirit- sociocultural philosophy, reflecting his belief that mental health care should address the physical, psychological, social, and spiritual aspects of human well-being.

An accomplished academic and researcher, Prof. Lesmana has collaborated with prestigious universities worldwide, including the University of Melbourne, University of Edinburgh, University of Sydney, University of Warwick,

University of California (Davis), University of Hawaii, Leiden University, and many more. He is also an alumnus of the Postgraduate Overseas Specialist Training (POST) program at the University of Melbourne and a 2021 International Visitor Leadership Program (IVLP) fellow from the U.S. Department of State.

He has authored several influential books, including Biarkan Anak Berkembang Wajar, Pedofil: Penghancur Masa Depan Anak, Menembus Pancaran Mata Ibu Kutemukan Diri Ku Kembali, Buku Panduan Belajar Koas Ilmu Kedokteran Jiwa, Bincang Psikiater, and his latest textbook Buku Ajar Psikiatri. Guided by a personal mission to humanize and empower those living with severe mental illness, Prof. Lesmana's work has not only elevated the standard of mental health care in Indonesia but has also positioned Bali as a model for community-based mental health interventions. His lifelong dedication continues to inspire collaboration among health professionals, academics, government bodies, and communities in building a healthier, more compassionate society.

About
Keynote Speaker

Dr. Agung Wiwiek Indrayani

Associate Professor, Department of Pharmacology and Therapy, Faculty of Medicine, Udayana University, Bali, Indonesia

Dr. Agung Wiwiek Indrayani is a distinguished academic and researcher in the field of pharmacology, currently serving as a faculty member at the Department of Pharmacology and Therapy, Faculty of Medicine, Udayana University. Dr. Agung Wiwiek Indrayani has contributed significantly to the study of pharmacology, biomedical science, and healthcare.

Dr. Agung Wiwiek Indrayani completed her medical degree (S.Ked) at Udayana University in 2000, followed by a Master's degree (M.Kes) in Biomedical Science from Gadjah Mada University in 2007, and a Doctorate (Dr.dr.) in Biomedical Science from the same institution in 2018. Her doctoral research focused on advanced photoprotection and drug formulation, especially the protective effects of nanoemulgel combinations in UV-ray protection and cancer therapies.

Throughout her career, Dr. Agung has published numerous papers, particularly in areas of pharmacology, drug formulations, and biomedicine. Notable publications include studies on the UV protection potential of nanoemulsions, the impact of natural substances on cancer treatment, and the hepatoprotective effects of Moringa Oleifera. Her contributions are widely recognized in the scientific community, with research frequently appearing in respected journals like the Bali Medical Journal and Journal of Scientific Research.

Dr. Agung Wiwiek Indrayani has also been a prominent speaker at national and international conferences. She has earned recognition for her oral presentations, particularly on the innovative use of nanotechnology in sunscreen formulations and the antioxidant potential of natural compounds. In addition to her academic achievements, Dr. Agung Wiwiek Indrayani holds multiple patents related to sunscreen compositions and formulations, showcasing her commitment to practical and impactful scientific innovations.

Her work continues to influence both the academic and practical realms of pharmacology and medical science, with a focus on advancing the development of more effective and sustainable healthcare solutions.

About
Keynote Speaker

Dr. I Made Jawi

Professor, Department of Pharmacology and Therapy, Faculty of Medicine, Udayana University, Bali, Indonesia

Prof. Dr. I Made Jawi, M.Kes, born on December 31, 1958, is an Indonesian expert in pharmacology and the pharmacology of herbal medicine, with a focus on natural remedies and the use of herbal medicine, particularly purple sweet potato tubers. He holds a Bachelor's degree in General Medicine (1986), a Master's in Sport Physiology (1999), and a Doctorate in Biomedicine (2013), all from Udayana University.

Prof. Jawi has extensive experience as a lecturer in pharmacology (1986–2025) and herbal medicine (2020–2025) and serves as the Coordinator of the Doctoral Program in Medical Science (2017–2025). He has been involved in purple sweet potato research since 2008, exploring its antihypertensive, antioxidant, and other therapeutic properties.

He has authored numerous research papers, contributing significantly to the field, with publications on topics such as the medicinal effects of purple sweet potato on hypertension, oxidative stress, and other health issues. Prof. Jawi is committed to advancing the understanding of herbal medicine, particularly its role in chronic diseases like hypertension and diabetes.

About
Keynote Speaker

Dr. Ketut Suastika

Dean, Faculty of Medicine, Universitas Mahasaraswati Denpasar (UNMAS),
President - Indonesian Endocrine Society,
Bali , Indonesia

Graduated as MD (1980), consultant endocrinology, diabetes and metabolism (1997), and PhD (2000). Short course on genetics of diabetes at Yamaguchi University (1992) and Obesity at Adelaide Royal Hospital (2002). Appointed as a professor of medicine at Udayana University since 2002, and a visiting professor at Women's Kobe University (2011–2024). Served as Dean of the Faculty of Medicine, Udayana University (2008–2013), Chancellor of Udayana University (2013–2017), President of the Indonesian Endocrine Society (2018–2021, 2021–2024), Dean Faculty of Medicine Mahasaraswati University (2025–2029), and President of ASEA-UNINET (2016–2017). Has published 104 papers in international journals and presented around 500 scientific events at international and national levels since 2010.

About
Keynote Speaker

Dr. Verena B. Brand

Reviewer - Technology Development,
Ontario Centre of Innovation,
Canada

Dr. Verena Brand is a seasoned biomedical researcher and project manager with over 15 years of experience in managing research projects and 12 years specializing in cellular systems. She has contributed to more than 21 publications through her work in clinical research, scientific writing, and bioanalysis, collaborating with interdisciplinary teams on immunological, parasitological, protein, molecular, and cell biology studies. With 3 years of expertise in validation, quality assurance, and regulatory affairs, she has successfully managed method validations, equipment qualifications, and the establishment of in vitro cell culture laboratories. Dr. Brand also has over 5 years of experience as a subject matter expert in business and product development, securing 1.6 million in funding and overseeing 23 completed projects. She has trained over 500 students in bioanalytical, biochemical, and physiological concepts in both German and English.

About
Session Speaker

Mr. Rajkumar Krishnan Vasanthi

Head of Program & Senior Lecturer,
Faculty of Health and Life Science,
INTI International University, Malaysia

Rajkumar Krishnan Vasanthi is a Senior lecturer cum Head of Division, Faculty of Health and Life Science, INTI International University, Malaysia. Completed his Post-Graduation from Sri Ramachandra University (India) in 2007 with Neurosciences as a specialty, worked in a different array of managerial responsibilities for 18 years not limited to lecturing, treating clients with functional limitations (Stroke rehabilitation), and active researcher in the Physiotherapy field.

He is a passionate educator and researcher with diversified research interests - Digital Interventions and Technologies, Stroke Rehabilitation, Physical Activities, Sports Coaching and Medical Education on the top of the list which includes more than 50 Publications in indexed journals, Secured grants worth 125K MYR, 16 conference Proceedings, 20 Presentations including invited speaker both local and international level and also as a research supervisor for under graduate level (Bachelor Degree) & Post graduate level (Master and PhD programs) students.

Invited as a research manuscript reviewer for more than 20 indexed journals, abstracts reviewer for World Physiotherapy Congress (2019, 2020, 2021, and 2023) a global body for Physiotherapist and also a Platform Award Reviewer for World Physiotherapy Congress (2020, 2021). Won Teaching excellence award 2022, Innovation Award and Best International Research Collaborator Award 2023.

About
Session Speaker

Dr. Anu Gauba

Principal cum Professor,
School of Medical & Allied Sciences,
GD Goenka University, Gurgaon, India

Dr. Anu Gauba is a distinguished academician and healthcare professional with over 20 years of experience in teaching, research, and training in the field of public health and medical sciences. She is Founder Principal of Department of Nursing at GD Goenka University, Gurgaon, she brings a wealth of expertise in areas such as Community, Research, Administration & Management, and Paediatrics.

An award-winning scholar, Dr. Gauba has been recognized nationally and internationally for her contributions to education and public health. She actively leads academic quality initiatives at the university and has played a vital role in developing community health training programs at both institutional and governmental levels.

Dr. Gauba is a lifetime member of various professional organizations and serves on the editorial boards of several reputed national and international journals. Her dedication to advancing healthcare education and training continues to shape the next generation of medical professionals at GD Goenka University. Her vision and dedication continue to inspire excellence in healthcare education and professional development at GD Goenka University.

About
Session Speaker

Dr. Kye Mon Min Swe

Associate Professor (Education Research),
Newcastle University Medicine Malaysia,
Malaysia

Dr. Kye Mon Min Swe is an Associate Professor of Education Research at Newcastle University Medicine Malaysia. She has extensive experience in the medical and public health fields. Her qualifications include an MBBS degree, a PhD in Public Health, membership in Family Medicine (Royal College of General Practitioners), and a Master in Medical Education. She is a member of the Research and Ethics Committee at Newcastle University Medicine Malaysia and a member of the Newcastle University Ethics Committee. She is also a faculty member of the Master's in Medical Education program at Newcastle University and a Fellow of the Higher Education Academy, UK. With over 16 years of research and teaching, she contributes to curriculum development for the new Public Health Program, as well as curriculum review for the Postgraduate Medical Education, Undergraduate MBBS, and Health Science programs. She is a reviewer of peer- reviewed journals and has numerous peer-reviewed publications. Her research interests encompass medical education, epidemiology, public health, and primary care medicine. An invited speaker at international forums, she actively participates in research grants, continuing medical education (CME) activities, and community service, including Basic Life Support (BLS) training. Her dedication to advancing medical education and community health makes her a distinguished contributor to the field of medicine.

Session **Chairs**

Apt. Desak Ketut Ernawati

Senior Lecturer, Department of Pharmacology and Therapy, Udayana University, Bali, Indonesia

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Nevus Variations in the Jordanian Population: Effects of Age, Medical Conditions, Environment, Congenital, Inherited and Genetic Factors

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Abstract:

Background: Nevi is a common benign proliferation of melanin-producing cells. Many triggers can influence their transformation into either benign or malignant, thus it is important to understand these triggers and their incidence across different populations to take adequate prevention. Here, we aim to examine the different etiologies of nevi changes across the Jordanian population.

Methods: We carried out a cross-sectional observational study focusing on patients seeking dermatological consultation for normal nevi or nevi with minimal changes. Demographic and clinical variables were collected from the patient's case history. Nevi's characteristics were also recorded. A skilled dermatologist assessed nevi morphology and changes using the ABCDE criteria for potential signs of melanoma. Nevi biopsy samples were fixed in formalin and sent for histopathological analysis and were stained with hematoxylin and eosin (H&E).

Results: A total of 231 patients were enrolled, with a majority of females (85%) and a median age of 37. Past medical history was positive in 17% of the samples, with hypertension, endocrine diseases, and diabetes mellitus being the most common. The majority of patients (61%) had fewer than three nevi. Changes in nevus size, configuration, and color were reported in 10% of patients, with multiple changes observed in 36% of patients. Microscopic analysis revealed polypoidal intradermal melanocytic blue nevi as the most common histopathological finding (84%). Positive medical history and the number of nevi were significantly associated with nevi changes.

Conclusion: Our results report that the number of nevi, as well as medical history, is linked to changes in their appearance. Additionally, we provide a detailed account of the various types of observed changes and their occurrence rates.

Keywords: **Nevi Changes, Melanoma, Medical History, Genetic Factors**

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A Case of Angiolymphoid Hyperplasia with Eosinophilia Complicated with Thyroid Cancer

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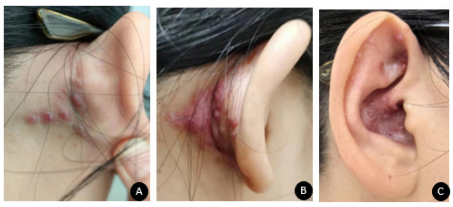
Abstract:

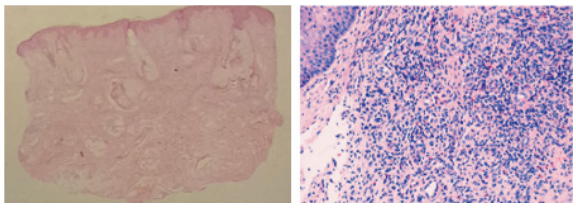
A 30-years-old female patient, with scattered papules and nodules accompanied by itching on the right auricle for one year. Prior to the rash, she was diagnosed with suspected papillary thyroid carcinoma. Histopathological examination of the skin lesion tissue revealed excessive keratinization of the epidermis, thickening of the spinous layer, small blood vessel proliferation and dilation in the upper dermis, swelling of endothelial cells within blood vessels, and infiltration of lymphocytes, eosinophils, and histiocytes in a patchy distribution around them. ***Diagnosis:*** angiolymphoid hyperplasia with eosinophilia; post-thyroid cancer surgery. ***Treatment:*** Oral administration of minocycline hydrochloride capsules and hydroxychloroquine sulfate tablets; topical application of mometasone furoate cream and polysulfated glycosaminoglycan lotion; intralesional injection of betamethasone dipropionate compound solution.

Discussion: Angiolymphoid hyperplasia with eosinophilia (ALHE) is a rare benign inflammatory vascular proliferative disease with an unclear etiology and pathogenesis. It often presents as smooth red papules or nodules clinically(Image 1). Pathologically, it is characterized by vascular proliferation, with swollen endothelial cells and significant infiltration of eosinophils(Image 2). ALHE needs to be differentiated from Kimura disease and Pyogenic granuloma. The patient in this case is a young female with typical skin lesions and was diagnosed with 'suspected papillary thyroid carcinoma' before the onset of the disease. The coexistence of ALHE and thyroid cancer in the same patient suggests that they may not occur coincidentally. Factors such as thyroid dysfunction caused by thyroid cancer, metastasis of lymph nodes around the tumor, and surgical trauma affecting surrounding organs and tissues may collectively lead to immune and endocrine disorders, potentially contributing to the development and progression of ALHE. Currently, there are no reports on thyroid cancer or postoperative induction of ALHE. There is no standard treatment for this condition; for single or larger lesions, surgical excision is preferred. For multiple lesions, treatments like intralesional injection of corticosteroids, liquid nitrogen cryotherapy, local radiotherapy, and laser therapy can be used, although their efficacy is uncertain.



Scattered papules and nodules on the right auricle

Image1. The skin lesions of the patient



Hyperkeratosis of the epidermis, with hyperplasia and thickening of the prickle cell layer. In the upper dermis, there is an increase and dilation of small blood vessels, with swollen endothelial cells and infiltration by patches of lymphocytes, eosinophils, and tissue cells around them

Image 2. Histopathological image

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A Descriptive Study on Determinants of Compliance to Antiretroviral (ARV) Therapy and Symptoms Reported by People Living with HIV/AIDS (PLWHA) While on ARV Therapy

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Abstract:

Background: Adherence to Highly active antiretroviral therapy (HAART)is a crucial factor in achieving the best therapeutic outcomes by viral load suppression & improvement in immune status for patients who have human immunodeficiency virus (HIV) positive status. Little is known about the predictors or factors affecting adherence to antiretroviral therapy (ART) as per socio-demographic setting of the study, in the current literature available.

Objectives: To assess the degree of adherence to ART among people living with HIV/AIDS (PLWHA)and to explore the predictors or determinants of non-adherence.

Methods: This present cross-sectional study extracted & analysed only the 6th month follow up data from a randomized control trial-interventional parent study conducted in the year May,2022 to December,2024. Parent study enrolled 300 PLWHA through purposive sampling &randomized into two groups having150 subjects in each interventional & control, through block randomization method &attending ART clinic at the tertiary care teaching government funded hospital, India. Data collection was done using self-reported standardized study tools-Adherence index &Adult AIDS clinical trial group (AACTG) at fixed time intervals (baseline, 3rd month &at 6th month). Data analysed using SPSS version 26. Data presented in the form of frequency and percentage using descriptive statistics.

Results: Adherence index (AI) at 6th month of follow up was more for experimental group (99.01) as compared to control group (97.89). Majority of the subjects on ART regimen experienced side effects like Headache (23.05%) Nausea, vomiting, diarrhea, headache & fatigue (20.57%)followed by hypersensitivity reactions (13.12%) & neuropathy (11.35%).Common reasons reported by subjects from both the groups, due to which subjects have missed medication as per AACTG Adherence questionnaire at 6th month of follow up-28% of the subjects reported that "they were busy with other things", 23% said they "simply forgot", 14% said that "they were away from home" & 10% reported they "didn't want others to notice you taking this medication" Symptoms of side effects experienced & reported by PLWHA, who never miss taking their ART medications at 6th month of follow up-28.30% of the subjects reported nausea or vomiting, 15.09% reported fatigue or loss of energy and diarrhea or loose bowel movements. 11.32% subjects reported skin problems such as rash, dryness or itching.

Conclusion: Nursing interventions& protocols, directed to improve ART adherence must consider the multifactorial influential factors like the most common reasons to miss ART in the initial 3–6 months of follow ups & the various symptoms experienced as common side effects by PLWHA on ART. Clinically competent nurses are must to be involved, who are able to recognize and intervene actively on antiretroviral side effect management.

Keywords: **Determinants, Compliance, Antiretroviral (ARV) Therapy, Reported Symptoms, People living with HIV/AIDS (PLWHA)**

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Exploring the Relationship Between Duration of Social Media Usage and Online Social Anxiety Among College Students of Kolkata, West Bengal

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Abstract:

Background: Online social anxiety refers to negative feelings such as tension, fear, and anxiety that arise during interactions on social media platforms. This can include concerns about privacy, fear of negative evaluation by others, and anxiety related to interpersonal communication.

Methodology: The aim of this research is to study the relationship between duration of social media usage and online social anxiety among college students. A sample of 100 college students between the ages 18–30 was taken. Sampling was done through Convenience Sampling Method. A questionnaire was created based on the Social Anxiety Scale for Social Media Users (SAS-SMU) by Alkis et al. Respondents were classified as light, moderate and heavy social media users. Data analysis was performed using Microsoft Excel and Google Forms.

Results: The study found a positive correlation between the amount of time spent on social media and increased Online Social Anxiety and the Pearson's Correlation Coefficient. Most students fall into the category of moderate social media users (67%), though a notable proportion is heavy users (21%). The results also indicate that privacy-related anxiety is the primary concern for the respond (mean score being 3.33).

Conclusion: The ubiquitous use of social media among young adults can trigger online social anxiety including fear of negative feedback, privacy concerns, decreased offline communication skills and self doubt.

Keywords: **Social Media, Indian College Students, Online Social Anxiety, SAS-SMU Scale**

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Evaluating the Add-On Effect of Nurse-Led Structured Education and Relaxation Techniques on Disease Severity in Psoriasis Patients Undergoing Ayurvedic Management: A Randomized Controlled Pilot Study

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Abstract:

Background: Psoriasis is a chronic, inflammatory skin disorder that significantly affects patients' quality of life (QoL). In India, Ayurveda is a widely practiced modality for its management. However, the integration of nurse-led interventions-such as structured education on hygiene, skincare, nutrition (Pathya and Apathya), sleep, rest, exercise, and relaxation techniques including yoga-may further enhance treatment outcomes. This pilot study aimed to develop a nursing care protocol for psoriasis and assess the added benefit of these interventions on disease severity among patients receiving Ayurvedic care.

Methods: A randomized controlled pilot study was conducted with 10 psoriasis patients recruited from a tertiary-level Ayurveda hospital in New Delhi. Participants were randomly assigned to an experimental group (n = 5) or control group (n = 5). Both groups received standard Ayurvedic management; the experimental group additionally received nurse-led structured education and relaxation techniques. Baseline demographic and clinical data confirmed group homogeneity. The primary outcome measure was the Psoriasis Area and Severity Index (PASI). Data were analyzed using repeated measures ANOVA.

Results: At baseline, both groups were demographically and clinically comparable. Most participants were male, aged 25–35, and diagnosed with plaque psoriasis. The experimental group had a lower baseline PASI score (20.04±4.06) than the control group (27.28±11.23). Over 60 days, the experimental group showed a marked reduction in PASI scores (Day 14: 11.14±3.79; Day 30: 7.88±3.61; Day 60: 5.00±2.59), while the control group showed minimal changes (Day 14: 23.40±8.67; Day 30: 22.52±8.27; Day 60: 22.44±8.49).

Repeated measures ANOVA revealed a significant main effect of time on PASI scores ($F(1.456,11.651)=67.5$, $p<0.001$, $p\eta^2=0.894$), and a significant time × group interaction ($F(1.456,11.651)=16.4$, $p=0.001$, $p\eta^2=0.673$), highlighting greater improvement in the experimental group. Additionally, a significant between-subjects effect ($F(1, 8) = 8.863$, $p = 0.018$, $p\eta^2 = 0.526$) confirmed consistently lower PASI scores in the experimental group. These findings support the effectiveness of the nurse-led intervention in significantly reducing psoriasis severity.

Conclusion: Nurse-led structured education and relaxation techniques significantly improved clinical outcomes and reduced psoriasis severity among patients undergoing Ayurvedic treatment. This integrated approach demonstrates a promising, cost-effective, and patient-centered model of care. Larger-scale studies are warranted to validate these findings and establish standardized nursing protocols for holistic psoriasis management.

Keywords: **Psoriasis, Ayurveda, Nurse-Led Intervention, Structured Education, Relaxation Techniques, and PASI**

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Role of Antioncogenes ADCY2/4/5/8 in Cutaneous Melanoma

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Abstract:

Objective: This study aims to explore the expression, role, and underlying mechanisms of adenylate cyclases (ADCY) 2/4/5/8 in cutaneous malignant melanoma, and to evaluate their impact on the proliferation and migration of the melanoma cell line A375.

Methods: The expression of ADCY2/4/5/8 mRNA and proteins, along with the correlation between gene expression and prognosis, were analyzed using gene expression profiling (GEPIA) and the Human Protein Atlas (HPA) database. The methylation and mutation status of ADCY2/4/5/8 were examined using the UALCAN, DeMth, and cBioPortal databases. Gene enrichment and pathway analyses of ADCY2/4/5/8 were conducted via the DAVID and STRING databases. qPCR was used to assess the relative expression of ADCY2/4/5/8 mRNA in melanoma A375 cells and melanocytic nevus FF cells. A375 cells were transfected with ADCY2/4/5/8 overexpression plasmids or control empty vectors and divided into experimental and control groups. CCK8 and Transwell assays were performed to evaluate the effects of ADCY2/4/5/8 overexpression on A375 cell proliferation and migration. The influence of ADCY2/4/5/8 overexpression on mRNA expression of genes related to proliferation and migration in A375 cells was examined by qPCR. Western blotting was used to analyze the impact of ADCY2/4/5/8 overexpression on the cAMP signaling pathway. One-way ANOVA and repeated measures ANOVA were applied for inter-group comparisons, while LSD-t tests were used for pairwise comparisons between groups.

Results: Analysis using the GEPIA database revealed that the expression of ADCY2, ADCY4, ADCY5, and ADCY8 mRNA was significantly lower in melanoma tissues ($n = 461$) compared to normal tissues ($n = 558$) ($P < 0.01$). A stratified analysis of ADCY2/4/5/8 mRNA expression in melanoma indicated that lower ADCY2 ($P = 0.015$) and ADCY8 ($P = 0.038$) mRNA expression levels were associated with later tumor stages. In the HPA database, analysis of 30 clinical melanoma samples showed that ADCY2/4/5/8 protein levels were reduced in melanoma tissues compared to normal tissues ($P < 0.001$). The UALCAN and DeMth databases revealed that ADCY2/4/5/8 methylation levels were higher in melanoma and metastatic melanoma tissues than in normal tissues ($P < 0.001$). DAVID and STRING pathway analyses suggested that ADCY2/4/5/8 genes may inhibit cell proliferation and migration by activating the cAMP signaling pathway. qPCR results showed that the relative expression of ADCY2/4/5/8 mRNA was lower in A375 cells than in FF cells. CCK8 assays showed that the cell viability of A375 cells overexpressing ADCY2/4/5/8 was significantly lower than that of the control group at both 48 and 72 hours ($P < 0.05$). Transwell assays demonstrated that A375 cells in the ADCY2/4/5/8 overexpression group exhibited reduced migration compared to the control group ($P < 0.01$). qPCR analysis revealed that overexpression of ADCY2/4/5/8 led to increased mRNA expression of epithelial cadherin and decreased mRNA expression of Ki67, vimentin, N-cadherin, and MMP2 ($P < 0.001$). Western blotting showed that the levels of cAMP and phosphorylated protein kinase A (p-PKA) were significantly higher in the ADCY2/4/5/8 overexpression group compared to the control group ($P < 0.001$), whereas there was no significant difference in total PKA protein levels between the experimental and control groups ($P > 0.05$).

Conclusion: ADCY2/4/5/8 is underexpressed in melanoma tissues. Overexpression of these genes inhibits the proliferation and migration of melanoma cells, suggesting that ADCY2/4/5/8 may function as potential tumor suppressor genes in the progression of melanoma.

Keywords: **Melanoma, Adenylate Cyclase, Cell Proliferation, cAMP, Cell Migration, Bioinformatics, A375 Cells**

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Pancreatic Adipositis Appeared after the Surgery for Colon Adenocarcinoma: A Case Report

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Abstract:

Pancreatic adipositis is a kind of subcutaneous fat necrotizing disease which is rare and closely related to pancreatic diseases. A 67-year-old female patient presents to our department with painful erythematous lesions and nodules on her extremities that developed one week following ultrasound surgery. Dermatological examination: Erythemas and nodules of different sizes scattere on the both lower limbs, back of hands and wrists with tenderness, accompanied by swelling of ankle and metacarpophalangeal joints. Laboratory examination: Blood amylase:1078.2U/L (25–125U /L), urine amylase: 1247U/L (< 5000U/ L); CT of the abdomen showed mildly irregular enlargement of the pancreatic duct. Histopathological examination revealed mild lesions of the true epidermis, patchy necrosis of subcutaneous fat, "ghostly" fat cells, and dotted basophils. Based on the clinical features, medical history, and examination findings, we diagnose the condition as pancreatic adipositis. In the absence of specific treatment, the rash typically resolves spontaneously.

Discussion: Pancreatic panniculitis is a rare necrotizing inflammatory condition of fat associated with pancreatic diseases. It can be secondary to acute and chronic, hemorrhagic - necrotizing pancreatitis, or pancreatic cancer, pseudopancreatic cysts, pancreatic adenomas, etc. It can also be seen in traumatic pancreatitis, cholelithiasis, after abdominal surgeries and biliary - enteric internal drainage procedures. Among them, the most closely related is acute and chronic pancreatitis (49.6%), followed by neoplastic diseases (45.8%). In neoplastic diseases, pancreatic acinar cell carcinoma has the closest association. This disease accounts for about 2% - 3% of pancreatic diseases, and is more common in men (male - to - female ratio = 3.5:1). So far, only 7 cases have been reported in domestic dermatology departments, 4 males and 3 females. Among them, 4 cases had pancreatic cancer, 1 case was secondary to pancreatic acinar cell carcinoma surgery, and 3 cases were accompanied by acute or chronic pancreatitis.

Currently, the gold standard for diagnosing pancreatic panniculitis remains skin histopathological examination. The characteristic pathological manifestations of this disease are focal coagulative necrosis of adipocytes, formation of anucleate shadow - like adipocytes, and varying degrees of stippled basophilic calcium salt deposition and neutrophil infiltration at the edge of necrotic fat.

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Maternal Hypothyroidism during Pregnancy Alters the Function of Theretinol-Binding Protein 4–Mediated Renal Mitochondrial Function in Offspring Rats

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Abstract:

Objective: This study investigates the impact of maternal hypothyroidism during pregnancy on the renal mitochondrial function of offspring rats, focusing on the involvement of the retinol-binding protein 4 (RBP4)-mediated signaling pathway.

Methods: A total of 60 Sprague-Dawley rats were used, divided into three groups: subclinical hypothyroidism (SCH), overt hypothyroidism (OH), and control (CON). Thyroid dysfunction was induced in the OH and SCH groups, and various molecular techniques including flow cytometry, PCR, and Western blotting were used to assess mitochondrial function, including the opening of the mitochondrial permeability transition pore (mPTP), and expression of related proteins like RBP4, SIRT3, and PiC.

Results: The study demonstrated that maternal hypothyroidism significantly affected the mitochondrial function of offspring, with altered mPTP opening and increased RBP4 expression. The RBP4/PiC/SIRT3 pathway was identified as crucial in regulating renal mitochondrial function, with higher expression levels of RBP4 in the OH group compared to the SCH group. Mitochondrial dysfunction, such as swelling and membrane rupture, was observed in the offspring's kidneys, correlating with the severity of thyroid hormone deficiency during pregnancy.

Conclusion: The findings suggest that the RBP4/PiC/SIRT3 signaling pathway plays a pivotal role in the regulation of renal mitochondrial permeability in rats with maternal hypothyroidism. This may offer insights into thyroid development in fetuses and the potential long-term renal effects of maternal thyroid dysfunction.

Keywords: **Maternal Hypothyroidism; Renal Mitochondrial Dysfunction; RBP4; mPTP; SIRT3**

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Mechanism of Bushen Huoxue Formula in regulating Endometrial Oxidative Stress and Fibrosis

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Abstract:

Intrauterine adhesion (IUA) is a common gynecological disease that is difficult to treat, and there is a lack of specific effective drugs and measures to prevent endometrial fibrosis. In this study, the mechanism of endometrial oxidative stress and fibrosis regulation was studied in an IUA rat model constructed by Bushen Huoxue Formula intervention of mechanical injury combined with infection. A total of 72 SPF SD female rats aged 8–10 weeks were randomly divided into blank control group, model control group, low-dose, medium-dose, and high-dose groups of Bushen Huoxue Formula, and estrogen groups. The rats in the estrous cycle of the model control group and the positive control group were simulated with surgical injury and infection, and the sham operation group was treated with on-off abdominal treatment. After successful modeling, the model control group was administered intragastrically with purified water of 15 μL·g-1 every day. The low-dose group was administered intragastrically with Bushen Huoxue Formula of 7.8 mg·g-1; the medium-dose group was administered intragastrically with Bushen Huoxue Formula of 15.6 mg·g-1, and the high-dose group was administered intragastrically with Bushen Huoxue Formula of 31.2 mg·g-1. The positive control group was administered intragastrically with estrogen of 4.2 μg·g-1. After continuous intervention for 28 days, all rats were deprived of water and killed to collect blood and tissue. Hematoxylin-eosin (HE) staining calculated the number of uterine glands; Masson staining calculated the area of uterine collagen fibers. Combined with HE and Masson staining, semi-quantitative scores were performed on the degree of endometrial fibrosis. Immunohistochemistry was performed to detect the vascular endothelial growth factor (VEGF), stromal cell-derived factor-1 (SDF-1), and transforming growth factor-β1 (TGF-β1) expression in rats' uterine tissue. Enzyme-linked immunosorbent assay (ELISA) found that angiopoietin 1 (IFN-γ), interleukin-1α (IL-1α), TGF-β1, tumor necrosis factor-α(TNF-α), collagen type IV (IV-Col), leukemia inhibitory factor (LIF), adisintegrin and metalloproteinase (ADAM17), and TGF-β1 mRNA were down-regulated in a dose-dependent manner, and the expression level of the high-dose group was significantly decreased. Compared with that in the estrogen group, the gene expression in the high-dose group was down-regulated. Western blot results showed that compared with those in the distillate water group, the protein expression levels of Notch and ADAM17 in all groups of Bushen Huoxue Formula were down-regulated in a dose-dependent manner, indicating that Bushen Huoxue Formula may inhibit the fibrosis process through the ADAM17/Notch signaling pathway. In this study, the IUA rat model was established by Bushen Huoxue Formula intervention of mechanical injury combined with infection. After high-dose intervention, the area of endometrial fibrosis was significantly reduced, and the edema and adhesion were effectively alleviated. The levels of inflammatory factors and IV-Col were significantly decreased, and the levels of LIF and antioxidant enzymes were significantly increased. The mRNA of Smad 2, Smad 3, ADAM17, and TGF-β1 was significantly down-regulated. Immunohistochemical results showed that Bushen Huoxue Formula could effectively increase the positive expression of SDF-1 and reduce the positive expression of VEGF and TGF-β1, which was one of the potential therapeutic methods for IUA

Keywords: Intrauterine Adhesion; Bushen Huoxue Formula; TGF-β1/Smads signaling pathway; ADAM17/Notch Signaling Pathway

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Clinical Study of Efllects of Blonanserin Combined with Transcranial Magnetic Stimulation in the Treatment of Female Patients with Schizophrenia

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Abstract:

Objective: To assess the efficacy of blonanserin combined with transcranial magnetic stimulation(TMS) in the treatment of female patients with schizophrenia.

Methods: 60 female patients with schizophrenia were randomly assigned to a control group(n=30) or a treatment group(n=30), the control group was treated with blonanserin, while the treated group was treated with blonanserin combined with TMS. Levels of serum prolactin(PRL), thyroid stimulating hormone(TSH), free thyroxine(FT4), and free triiodothyronine(FT3) in the two groups were detected. Efficacy was evaluated using the Positive and Negative Syndrome Scale(PANSS), and congnitive function was evaluated using the mini mental state examination (MMSE).

Results: Compared with the control group, the levels of sex hormone and thyroid hormone in the treatment group were changed significantly after the treatment ($P<0.05$). Scores of PANSS and negative symptoms were lower, while the score of MESS was higher in the treatment group than that in the control group ($P<0.05$). Conclusion: TMS regulates the hormone levels, reduces the negative symptoms and improves congnitive function in schizophrenia. Blonanserin combined with TMS in the treatment of patients with schizophrenia shows a good effect, which is worthy of further clinical promotion and application.

Keywords: **Schizophrenia; Blonanseri; Transcranial Magnetic Stimulation; Hormone; Congnitive Function**

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Clinical Observation of Acupoint Application Combined with Enuresis Alarm in the Treatment of Children with Monosymptomatic Nocturnal Enuresis

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Abstract:

Objective: To investigate the short-term and long-term efficacy of acupoint application combined with enuresis alarm in the treatment of children with monosymptomatic nocturnal enuresi.

Methods: 60 children with monosymptomatic nocturnal enuresis were randomly divided into experimental group and control group, with 30 cases in each group. Both groups were given behavioral psychotherapy. The experimental group was treated with acupoint application and enuresis alarm, and the control group was treated with enuresis alarm. The clinical efficacy and recurrence rate in 1 month and 3 months after stopping treatment were compared between the two groups.

Results: The total effective rate of the experimental group was higher than that of the control group (P<0.05); The recurrence rate of the experimental group was lower than that of the control group after stopping treatment for 3 months (P<0.05).

Conclusion: Acupoint application combined with enuresis alarm has a significant effect on children with monosymptomatic nocturnal enuresi

Keywords: **Acupoint Application; Enuresis Alar; Childern; Monosymptimatic Nocturnal Enuresis**

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Analyze the Influencing Factors and Maternal and Fetal Outcomes of Trial of Labor after Cesarean Section

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Abstract:

Objective: To explore the factors influencing the success rate of vaginal birth after cesarean (VBAC) and maternal and infant outcomes, to guide the clinical decision-making of trial of labor after cesarean (TOLAC), improve the success rate of VBAC and reduce the occurrence of adverse maternal and infant outcomes.

Methods: A retrospective analysis was performed on 452 TOLAC pregnant women, 342 VBAC pregnant women, and 110 the failed TOLAC pregnant women who delivered in Women and Children's Hospital of Chongqing Medical University (Chongqing Health Center for Women and Children) from January 2020 to October 2022. According to the final mode of delivery, 110 pregnant women were randomly selected and divided into VBAC group and the failed TOLAC group. Univariate analysis and multivariate Logistic regression were used to analyze the influence factors of VBAC, and compare the pregnancy outcomes of the two groups.

Results: (1) In this study, the overall VBAC rate was 75.67% (342/452), and the failed TOLAC rate was 24.33% (110/452). (2) Univariate analysis of prenatal factors showed that when the gestational age [38.44±2.13 weeks, 38.96±1.34 weeks, respectively], induction of labor due to adverse pregnancy history [11.82%, 2.80%, respectively], and the presence of pregnancy complications [32.73%, 20.56%] of women in the VBAC group and the failed TOLAC group were compared, there were statistical differences (all $P < 0.05$). And there were extremely significant statistical differences ($P<0.001$) in the comparisons of Cervical Bishop score [5.15±1.69, 3.71±1.52], previous history of vaginal delivery [32.73%, 20.56%], and spontaneous delivery [86.36%, 17.76%] on admission. (3) Univariate analysis of maternal and infant pregnancy outcomes showed that when the weight of neonatal (g) [3191.82±489.00, 3334.15±375.99] and postpartum blood loss in 24 hous (ml) [408.75±142.31, 560.85±168.61] of women in the VBAC group and the failed TOLAC group were compared, there were statistical difference ($P < 0.05$). There were 7 cases of incomplete uterine rupture in the failed TOLAC group. There were no statistically differences in blood transfusion, puerperal infection and Apgar score of 5–minute between the two groups. There were no maternal and perinatal death. (4) Multivariate Logistic regression analysis showed that: Cervical Bishop score on admission (OR = 0.122, 95%CI 0.010–1.441), previous history of vaginal delivery (OR = 0.034, 95%CI 1.297–715.194), preterm delivery ((OR = 186.54, 95%CI 2.225–15638.578) and spontaneous labor (OR = 52.37, 95%CI 8.949–306.517) were the influence factors of VBAC.

Conclusion: The influence factors of VBAC were gestational age, previous vaginal delivery history, previous labor induction due to adverse pregnancy history, pregnancy complications, cervical Bishop score on admission, spontaneous labor and preterm birth history. The postpartum blood loss in 24 hours in the VBAC group was lower than the failed TOLAC.

Keywords: **Trial of Labor After Cesarean, Vaginal Birth After Cesarean Section, Pregnancy Outcome**

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Gitelman Syndrome with Pneumonia: A Case Report and Literature Review

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Abstract:

Objective: Gitelman syndrome is an unusual hereditary renal tubular disease that is prone to severe hypokalemia, is harmful, and is difficult to diagnose. There are few clinical reports on Gitelman syndrome complicated with pneumonia, which is easier to ignore. This article aims to help clinicians diagnose and treat the disease early by exploring the clinical and genetic mutation characteristics of Gitelman syndrome combined with pneumonia.

Methods: The clinical data of a child with Gitelman syndrome complicated with pneumonia were retrospectively analyzed, and the clinical characteristics of Gitelman syndrome were reviewed with reference to the literature.

Results: The patient, a girl, 11 years and 4 months old, had clinical manifestations of hypokalemia, hypomagnesemia, hypochloremia, hypocalciuria, slightly hypotension and metabolic alkalosis. Genetic testing revealed compound heterozygous mutations in the SLC12A3 gene: c.2159G>T, c.1967C>T. After potassium supplementation, anti-infection and symptomatic treatment, her condition improved and her serum potassium returned to normal.

Conclusion: Gitelman syndrome combined with infection is more likely to induce severe hypokalemia. If infection combined with unexplained severe hypokalemia or refractory hypokalemia is found in clinical work, the cause of hypokalemia should be identified in time. If there is a manifestation of "five low and one high combined with metabolic alkalosis", Gitelman syndrome should be considered in time.

Keywords: **Gitelman Syndrome; Hypokalemia; Metabolic Alkalosis; SLC12A3**

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Analysis of the Clinical Efficacy of Amiodarone in the Emergency Treatment of Tachyarrhythmia in Coronary Heart Disease

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Abstract:

To analyze and study the clinical efficacy of amiodarone in the emergency treatment of patients with tachyarrhythmia in coronary heart disease. Methods: A total of 88 patients with tachyarrhythmia in coronary heart disease admitted to the emergency department of our hospital from July 2017 to September 2018 were selected. According to the order of admission for treatment, these patients were evenly divided into an observation group (44 cases) treated with amiodarone and a control group (44 cases) treated with conventional symptomatic treatment. The treatment efficacy of the disease and the incidence of adverse reactions of the above - mentioned patients were evaluated and compared. Results: The total effective rate of disease treatment in the observation group was significantly higher than that in the control group, and the difference was statistically significant ($P<0.05$). The incidence of adverse reactions in the observation group was lower than that in the control group, but the difference was not significant ($P>0.05$). Conclusion: For emergency patients with tachyarrhythmia in coronary heart disease, treatment with amiodarone can improve the treatment effect of arrhythmia without increasing adverse reactions, and it is worthy of application.

Keywords: **Emergency; Amiodarone; Coronary Heart Disease; Tachyarrhythmia; Clinical Efficacy**

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Graduating Student Nurses' Expedience to Work in Clinical Facility Amidst COVID-19 at Nursing Colleges of Delhi & NCR

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Abstract:

Introduction: The infectious agent responsible for coronavirus infection i.e. COVID-19 is the virus named as SARS-CoV-2. After mild to severe symptoms of respiratory system, majority of virus-infected individuals recover without requiring further care. However, some people get very sick and in need of medical attention. Important stakeholders' knowledge, attitudes, and practices have an impact on the dynamics of pandemic behaviour. Instead of containing the pathogen, hospital personnel ignorance and inappropriate behaviour spread it. Further, fighting war with an ignorant, fatigued and discouraged workforce is an invitation for failure for the healthcare system.

Aim: The goal of the study was to ascertain how well-prepared Graduating student nurses are in terms of their knowledge to work in a clinical facility during COVID-19 at nursing colleges of Delhi and NCR.

Methodology: The present study used an exploratory descriptive survey methodology. 305 Graduating Student Nurses were chosen as the sample using the purposive sampling technique of various Nursing Colleges, Delhi & NCR. A structured knowledge questionnaire was utilized to gather the required data.

Result: The outcome of the research study showed that primarily (82%) of sample fall into the Average category, suggesting a moderate degree of knowledge regarding expedience in terms of knowledge to work in clinical facility amidst COVID 19 pandemic, some of participants (18%) possessed poor knowledge indicating a lower level of understanding or awareness while none of the respondents had good knowledge, indicating that no participant achieved the highest knowledge scores. The study also revealed the poor awareness of graduating student nurses particularly in the area of diagnostic procedures related to COVID- 19. Majority of the Graduating student nurses were having lack of knowledge about minimum concentration of alcohol in hand sanitiser, use of PPE to be done aerosol producing procedure, facility where moderate case of COVID 19 should be treated, Phases of National Vaccination policy in the current scenario, type of mask to be used for Oxygen therapy in COVID 19 moderate disease.

Conclusion: Health care providers have an excellent opportunity to educate students about COVID-19, its etiology, prevention strategies, and treatment, as the current study revealed that the sample lacked a sufficient level of knowledge regarding expedience to work in a clinical facility for patients diagnosed with COVID-19. Hence regular training courses and educational initiatives on infection control and other updates on COVID-19 must be conducted and attended by all health care personnel, including graduating student nurses.

Keywords: **Graduating Student Nurses', Readiness, COVID-19**

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Effect of Photocatalytic-degraded Ofloxacin on Growth and Cell Division of Onion Root

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Abstract:

Ofloxacin (OFL) is one of the most widely used antibiotics. However, the improper disposal of OFL causes harmful effects on organisms in the ecosystem. Photocatalysis produces OFL intermediates during the degradation process. This study aims at the effects of photocatalytic-treated OFL on onions. 5–Ag/ZnO was used as a catalyst in the photodegradation of 10 ppm OFL under 8 hours of UV light exposure. Onion bulbs with root lengths between 0.5 – 1.8 cm were divided into two groups. The first group was placed in deionized water as a control group and the other group was exposed to the photo-degraded OFL as a test group. The bulbs were incubated at 25°C for 72 hours. Analysis indicated the test group's root lengths were significantly shorter than the control group's ($p<0.05$), suggesting that the photo-degraded OFL affected the root elongation. At 72–hour exposure, roots growing in the photo-degraded OFL were still white and straight. The roots were subsequently used in cell division study. The Mitotic index (%MI) of the control group was 21.70 whereas the test group's MI decreased to 6.49, suggesting the photo-degraded OFL interfered with the cell division process. In conclusion, the photo-degraded OFL retarded onion root growth and disturbed cell division.

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Ethical Challenges and Public Health Implications of Cellular Agriculture and Emerging Biotechnologies in the Future Food Supply Chain

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Abstract:

In the face of mounting global pressures on food systems (ranging from climate change and resource scarcity to population growth and public health crises) cellular agriculture and emerging biotechnologies have surfaced as transformative innovations. These technologies leverage advances in life sciences to develop food ingredients from cultured cells, engineered microbes, and synthetic biological systems, offering alternatives to conventional farming and food production.

While these approaches promise to reduce environmental impact, enhance nutritional quality, and strengthen food resilience, they also raise critical ethical and health-related concerns. Key issues include the long-term safety of bioengineered food components, reduced transparency in production and labeling, and potential inequalities in access and affordability. Moreover, public perception and trust are influenced by how well these innovations align with ethical norms, cultural values, and regulatory safeguards.

This study highlights the multifaceted implications of integrating cellular agriculture and synthetic biology into the food supply chain, with a focus on ethical issues, consumer rights, health risk assessment, and the need for inclusive, adaptive food policies. It calls for a proactive, interdisciplinary approach to ensure that such technologies serve the broader goals of sustainability, equity, and public health.

Keywords: **Food Ethics; Emerging Biotechnologies; Synthetic Biology; Public Health; Food Safety; Sustainability; Food Policy**

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Generative AI in Drug Discovery and Development: Predicting Clinical Trial Outcomes Using Generative Models

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Independent Researcher

Abstract:

The integration of generative artificial intelligence (AI) into drug discovery and development presents a transformative approach to predicting clinical trial outcomes. This paper explores the application of generative models in forecasting the efficacy and safety of novel therapeutics, emphasizing their potential to enhance decision-making processes in clinical research. By leveraging vast datasets encompassing preclinical results, pharmacological profiles, and patient demographics, generative AI can create predictive simulations that inform trial design and patient selection. We discuss the methodologies employed in developing these models, their validation against historical clinical data, and the implications for reducing trial failures and accelerating the path to market for new drugs. Furthermore, we address the ethical considerations and challenges associated with the deployment of generative AI in clinical settings. Our findings suggest that the strategic application of these technologies can significantly optimize drug development pipelines and improve patient outcomes, paving the way for a new era of precision medicine. The advancements in generative AI not only promise to streamline drug discovery processes but also enhance the precision of therapeutic interventions tailored to individual patient needs.

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Assess The Knowledge and Attitude Regarding Menopausal Symptoms among Midlife Women

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Abstract:

Background: Women entering menopause usually develop different symptoms both physically and psychologically including hot flashes along with night sweats, irregular periods, anxiety, mood swings and so on.

Aim: The study aimed to assess the knowledge and attitude regarding menopausal symptoms among midlife women aged between 45–55 years.

Methodology: A descriptive cross-sectional study was performed among midlife women aged 45–55 years residing in selected villages, Gudur. The study employed convenient sampling to recruit 150 female participants and the research study received approval from the institutional ethical committee. The study included women aged between 45–55 years who were in menopause or experiencing menopausal stages and who are willing to participate with informed consent. All participants who did not give consent in the study were excluded.

Results: The study found that 16.67% of midlife women had inadequate knowledge, 50% had moderate knowledge, and 33.33% had adequate knowledge. Regarding attitude, 10% had a poor attitude, and 46.67% exhibited an average attitude. A strong positive correlation between knowledge and attitude suggests that women with higher knowledge levels tend to have more positive attitudes.

Conclusion: The study concludes that the assessment of knowledge and attitudes towards menopause among midlife women underscores critical gaps that must be addressed through targeted educational interventions. These efforts should prioritize age-appropriate and context sensitive approaches, aiming to empower women with the necessary knowledge to navigate the menopausal transition more successfully.

Keywords: **Knowledge, Attitude, Menopausal Symptoms, Midlife Women**

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Learning Motivation and Learning Environment to Critical Thinking of Nursing Students

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Abstract:

This study explores the relationships among learning motivation, learning environment, and critical thinking skills of nursing students and develops an evidence-based instructional program to enhance these constructs. Employing a multi-phase mixed-methods design, Phase 1A conducted a systematic integrative review of relevant literature using databases such as Scopus, PubMed, and ScienceDirect to identify prevailing themes and research gaps. Findings informed the construction of a questionnaire, which was validated and pilot tested in Phase 1B through expert review and statistical reliability and validity analyses, including Cronbach's alpha and exploratory factor analysis. In Phase 2, the finalized instrument was administered to a larger nursing student sample to collect quantitative data. Descriptive statistics, correlation analysis, multiple regression, and mediation analysis were performed to examine the relationships among learning motivation, learning environment, and critical thinking. Results highlighted significant associations, with learning motivation mediating the effect of the learning environment on critical thinking skills. Phase 3 synthesized these empirical findings with thematic insights from the literature and stakeholder consultations to design an Outcome-Based Education (OBE) instructional program aimed at improving critical thinking through enhanced motivation and supportive learning environments. Expert feedback through focus groups validated the program's relevance and feasibility. This comprehensive approach ensured the development of a contextually grounded and statistically supported intervention that addresses key educational challenges in nursing programs. The study contributes valuable knowledge on how motivational and environmental factors influence critical thinking and offers practical strategies for curriculum enhancement. These findings can guide nursing educators and administrators in fostering a more effective learning experience that promotes critical thinking essential for professional competence

Keywords: **Critical Thinking, Learning Environment, Learning Motivation, Nursing Education**

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Evaluation of Triphala Churna as a Potent Antigenotoxic Medicine using Allium Sativum L. Cells

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Abstract:

The pervasive exposure of urban populations to a multitude of environmental carcinogens and mutagenic xenobiotic agents underscores the urgent need for a safe and accessible daily-use intervention. *Triphala Churna* (TC), a widely recognized Ayurvedic formulation presents a promising candidate. Its constituent ingredients have individually demonstrated diverse medicinal properties, including significant genoprotective potential and efficacy against various cancers. However, the synergistic antigenotoxic effects of the complete TC formulation remain underexplored scientifically.

Current study scientifically assesses antioxidant and antigenotoxic potential of TC. While TC is traditionally used for health benefits, its protective effects as genoprotective agent require investigation. In the current research, quality parameters were established for inhouse prepared TC, and TLC fingerprint was developed. In vitro antioxidant assays (DPPH and Galvinoxyl) revealed that TC exhibited superior free radical scavenging activity (IC50: 68.483 µg/mL for Galvinoxyl and 75.771 µg/mL for DPPH) compared to its individual ingredients, suggesting a synergistic effect.

The antigenotoxic potential of TC was evaluated using *Allium sativum*. Genotoxicity was induced with Mercuric Chloride (0.1%), resulting in a significant reduction of Mitotic Index (MI) from 39.825% (control) to 25.676% (induction) and an elevation of total chromosomal aberrations to 5.574%. Conversely, concurrent TC treatment exhibited a significant ameliorative effect, elevating the MI to 35.588% and diminishing chromosomal aberrations to 2.276%. These findings furnish preliminary scientific substantiation for TC's capacity to attenuate $HgCl_3$–induced genotoxicity by fostering cell proliferation and curtailing chromosomal damage, thereby suggesting its potential as a genoprotective agent adjunct to its established immunomodulatory and antioxidant properties for sustained human utilization.

Keywords: ***Triphala Churna*, Genotoxicity, Genoprotective, Antioxidant**

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Evaluation of Anti-Helminthic and Antioxidant Potential of an Unexplored Plant of Western Ghats: *Flemingia strobilifera*

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Abstract:

The biodiverse Western Ghats of India are a reservoir of under-researched medicinal plants, such as *Flemingia strobilifera* (L.) W.T. Aiton., a traditionally known plant utilized for conditions such as epilepsy, insomnia, hysteria, and as a vermifuge. The current research work aims to scientifically validate the traditional uses of *Flemingia strobilifera*, building upon the documented anti-helminthic activity of its close relative, *Flemingia vestita*. Recognizing the significant gastrointestinal adverse effects of synthetic anthelmintics, especially in pediatric populations, the scientific validation of plant-based alternatives has become crucial. This project addresses the need by pharmacologically investigating *F. strobilifera* leaves and establishing essential quality control parameters for the plant.

The study further explores the antioxidant properties of this plant using DPPH assay and anthelmintic effect on bloodworms. The distilled water, ethyl acetate, and ethanol extracts demonstrated significant antioxidant activity in an ELISA-based DPPH assay, with IC50 values of 83.59 µg/mL, 78.57 µg/mL, and 85.81 µg/mL, respectively. Furthermore, in-vitro anthelmintic assays using bloodworms revealed dose-dependent efficacy, scientifically corroborating its traditional vermifuge use, with potent LD50 values observed at 2.32 mins, 3.52 mins and 5.41 mins for 1000 µg/mL, 500 µg/mL, and 250 µg/mL extract concentrations respectively. The plant's notable antioxidant properties further enhance its therapeutic potential.

This research not only validates traditional knowledge and contributes to the sustainable utilization of local resources, potentially benefiting local communities and the Indian pharmaceutical sector, but also offers novel insights into the *Flemingia* genus, paving the way for the development of safer, plant-based anthelmintic medications as alternatives to conventional drugs.

Keywords: ***Flemingia strobilifera***, **Antioxidant, Traditional Medicine, Anti-helminthic**

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Explore Your Research Journey...

An In-depth Study on Nutritional Status and Quality Life Assessment of Performing Artists in Odisha

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Abstract:

This Paper, titled "An In-depth Study on Nutritional Status and Quality Life Assessment of Performing Artists in Odisha" investigates the essential role of nutrition in enhancing the quality of life (QoL) among Odisha's performing artists. The study includes domains of quality life such as socio-economic conditions, health profile, food and dietary habits, body image and weight loss behaviour, psychological risk factors, and the overall well-being of performing artists. There are four types of performing artists from 10 districts of Odisha that have been chosen as a major sample of the study. A total number of 350 performing artists across domains, including dance, music, opera, and cinema, have been taken for the data collection. The study aims at to assess the nutritional status and quality life of performing artists in Odisha. The broad objectives are taken such as to study the socio-economic conditions, health profile, food habits pattern, body image and weight loss behaviour, psychological risk factors, and the overall well-being of performing artists. The research methodology adopted for the study includes descriptive research design, self-developed questionnaire with PSS scale. The study integrates demographic profile, BMI measurement, Food habit pattern, body image and weight loss behaviour, psychological wellbeing are undertaken in the study. The data analysed through the application of various statistical method and statistical tools such as mean, percentage, standard deviation, Chi-square and ANOVA. This thesis is presented with five chapters, Introduction, Review of literature, Nutritional status and quality life assessment, Research methodology, Result and discussions, Summary and conclusions. The major findings reveals that many artists experience irregular eating patterns, nutritional deficiencies, and a moderate level of stress due to financial instability and the demanding nature of their work. Physical health issues like hypertension and obesity are prevalent, and access to healthcare and mental health support remains limited, often contributing to challenges in managing occupational stress and sustaining performance standards. Artists reported moderate social and familial support, but economic and health issues are compounded by the scarcity of local resources, such as artist unions, financial assistance programs, and mentorship opportunities. The spiritual practices were identified as a common coping mechanism. in conclusion the key recommendations for addressing these challenges include providing nutritious food at performing arts institutions, establishing regular health and mental wellness programs, offering financial aid for low-income artists, and developing age-specific diet plans that cater to the physical demands of their art forms. Integrating performing arts into educational curricula is also suggested to foster an understanding of an artist's unique health needs from an early age. This research highlights that QoL for performing artists is deeply intertwined with nutrition, mental health, and socio-economic stability, emphasising the need for structured policies and support systems to empower this essential yet vulnerable community, thereby promoting healthier and more sustainable careers. The study recommends a suggested measure for well-performing artists. The overall quality of life study requires further resources to develop an equality life model for the unique artistic scale of people providing entertainment to society as a whole. The study can be done with a lot of limitations.

Keywords: **Quality of life, Nutritional Status, Performing Artist, Socio-Economic, Psychological Well-Being, Body Image**

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A Systematic Review and Meta-Analysis to Investigate the Effectiveness of Exosome for Diabetic Wounds

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Abstract:

Aim: Exosomes, small endosome-derived membrane vesicles, have shown significant potential as wound healing therapies. However, translating experimental research into commercially available treatments remains a challenge.

Objectives: This systematic review and meta-analysis provide a comprehensive evaluation of the current research on exosome-based wound healing therapies.

Materials and Methods: A systematic search of PubMed and Google Scholar was conducted to identify full-text articles published between 2010 and February 2024 on mammalian-derived exosomes in wound healing. Of 138 identified studies, 19 met the inclusion criteria for meta-analysis.

Results: Exosome-based therapies were found to enhance wound healing by promoting angiogenesis, re-epithelialization, and collagen deposition while reducing scar formation. However, research in this area is highly variable, with differences in cell sources, biomaterials, and delivery methods.

Conclusions: Further comparative studies are needed to optimize cellular sources, delivery systems, and biomaterials. The reliance on rodent models remains a limitation, as progress toward large-scale testing and more advanced in vivo models has been slow. Addressing these challenges is crucial for the clinical translation of exosome-based therapies into scalable, commercially viable wound healing treatments.

Keywords: **Animal Models; Exosomes; Skin Regeneration; Wound Healing; Meta-Analysis**

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Optimizing TSH+T4 Combined Screening Strategy via International Neonatal Screening Data: Evidence for Reducing False Positives in Preterm Infants

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Abstract:

Introduction: Congenital hypothyroidism (CH) is a key target disease for newborn screening (NBS), and its early diagnosis relies on high-efficiency screening strategies. Data from the ISNS multicenter database indicate that thyroid dysgenesis (e.g., ectopic thyroid) accounts for 85% of CH cases. However, false-positive screening results are particularly prominent in preterm infants (false-positive rate: 8.7%), necessitating further optimization of screening protocols to improve specificity.

Objective: This study aims to compare TSH-alone versus TSH+T4 combined screening sensitivity/specificity and validate combined strategies' diagnostic accuracy improvements using ISNS data.

Methods and Data: Retrospective screening data from 500,000 newborns across 12 countries registered in the ISNS database (2015–2020). Logistic regression analysis identified risk factors for false positives in preterm infants (e.g., birth weight, gestational age). Positive predictive value (PPV) and negative predictive value (NPV) were calculated for TSH+T4 combined testing.

Results: TSH alone (cutoff ≥10 mIU/L): Sensitivity = 95.2%; specificity = 92.5%. However, preterm infants showed a high false-positive rate (8.7%). TSH+T4 combined testing: Specificity increased to 99.1%, with an overall false-positive rate of 2.1% (3.4% in preterm infants). Preterm birth (gestational age <37 weeks) and low birth weight (<2500 g) were identified as independent risk factors for false positives (OR = 2.3, 95% CI 1.8–2.9). Combined screening increased the diagnosis rate of congenital hypothyroidism (CH) from 1 in 3,000 (TSH alone) to 1 in 4,200, significantly reducing unnecessary retesting ($p < 0.01$).

Conclusion: Based on ISNS multicenter data, combined screening for TSH and T4 significantly reduces false-positive rates, achieving 99.1% specificity and establishing this approach as a priority for congenital hypothyroidism (CH) screening. Future efforts should focus on developing dynamic cut-off standards for preterm infants and exploring additional indicators, such as the T4/TSH ratio, to further optimise screening efficacy.

Keywords: **Congenital Hypothyroidism, Newborn Screening, TSH+T4 Combined Screening, False Positive Rate, Preterm Infants**

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Ginsenoside Rd Enhances Blood-Brain Barrier Integrity after Cerebral Ischemia/Reperfusion by Alleviating Endothelial Cells Ferroptosis via Activation of NRG1/ErbB4-Mediated PI3K/Akt/mTOR Signaling Pathway

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Abstract:

The incidence of ischemic stroke is increasing year by year and showing a younger trend. Impaired blood-brain barrier (BBB) is one of the pathological manifestations caused by cerebral ischemia, leading to poor prognosis of patients. Accumulating evidence indicates that ferroptosis is involved in cerebral ischemia/reperfusion injury (CIRI). We have previously demonstrated that Ginsenoside Rd (G-Rd) protects against CIRI-induced neuronal injury. However, whether G-Rd can attenuate CIRI-induced disruption of the BBB remains unclear. In this study, we found that G-Rd could upregulate the levels of ZO-1, occludin, and claudin-5 in ipsilateral cerebral microvessels and bEnd.3 cells, reduce endothelial cells (ECs) loss and Evans blue (EB) leakage, and ultimately improve BBB integrity after CIRI. Interestingly, the expressions of ACSL4 and COX2 were upregulated, the expressions of GPX4 and xCT were downregulated, the levels of GSH was decreased, and the levels of MDA and Fe2+ were increased in ischemic tissues and bEnd.3 cells after CIRI, suggesting that ECs ferroptosis occurred after CIRI. However, G-Rd can alleviate CIRI-induced BBB disruption by inhibiting ECs ferroptosis. Mechanistically, G-Rd prevented tight junction loss and BBB leakage by upregulating NRG1, activating its tyrosine kinase ErbB4 receptor, and then activating downstream PI3K/Akt/mTOR signaling, thereby inhibiting CIRI-induced ferroptosis in ECs. Taken together, these data provides data support for G-Rd as a promising therapeutic drug for cerebral ischemia.

Keywords: **Ischemic Stroke, Ginsenoside Rd, Ferroptosis, NRG1/ErbB4 Signal, Blood-Brain Barrier**

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Effects of Atropine Eye Drops with Different Concentrations and Administration Frequencies on Pupil Diameter, Accommodation Amplitude, and Tear Film Function in Myopic Children

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Abstract:

Objective: To investigate the effects of atropine eye drops with different concentrations and administration frequencies on pupil diameter, accommodation amplitude, and tear film function in myopic children.

Methods: The left eye data of 280 myopic children who were treated in our hospital from Jan. 2018 to Jan. 2021 were selected. The randomized envelope method was used to divide the patients into 4 groups (groups A, B, C, and D), with 70 cases (70 eyes) in each group. Patients in the group A were given 0.01% atropine eye drops every night before going to bed (both eyes); patients in the group B were given 0.01% atropine eye drops every other night before going to bed (both eyes); patients in the group C were given 0.02% atropine eye drops every night before going to bed (both eyes); patients in the group D were given 0.02% atropine eye drops every other night before going to bed (both eyes); and all of them were given 1 drop each time per eye. The pupil diameter, accommodation amplitude, equivalent spherical diopter, axial length, anterior chamber depth, tear film function, and adverse reactions of the 4 groups of patients before and 4, 8, and 12 months after treatment were compared.

Results: Before treatment, there were no significant differences in pupil diameter, accommodation amplitude, equivalent spherical diopter, axial length, anterior chamber depth, or tear film lipid layer thickness between the 4 groups (all $P>0.05$). There were no significant differences in pupil diameter, accommodation amplitude, equivalent spherical diopter, axial length, anterior chamber depth, or lipid layer thickness before and after treatment among the 4 groups (all $P_{group}>0.05$). The change trends of pupil diameter, accommodation amplitude, equivalent spherical diopter, axial length, anterior chamber depth and tear film lipid layer thickness at different time points before and after treatment were the same in each group (all $P_{time}>0.05$). At each time point after administration, the pupil diameter and equivalent spherical diopter were significantly greater than those before administration, and the accommodation amplitude was significantly less than that before administration (all $P<0.01$). At 4 and 8 months after administration there was no significant difference in the axial length of each group compared with that before administration (all $P>0.05$), but at 12 months after administration the axial length of each group was significantly greater than that before administration (all $P<0.05$); and there were no significant differences in anterior chamber depth or tear film lipid layer thickness between before and after administration in each group (all $P>0.05$). There were no significant differences in pupil diameter, accommodation amplitude, equivalent spherical diopter, axial length, anterior chamber depth, or tear film lipid layer thickness at each time point between the groups (all $P>0.05$), and there was no interaction between different treatments and administration time points (all $P_{interaction}>0.05$). Within 1 month after treatment, some children were afraid of strong light; according to the intention to treat (ITT) analysis, there were 12 (17.14%) cases in the group A, 11 (15.71%) in the group B, 16 (22.65%) in group the C, and 13 (18.57%) in the group D, with no significant difference ($P>0.05$); according to the perprotocol (PP) analysis, there were 12 (18.18%) cases in the group A, 10 (15.62%) in the group B, 14 (20.90%) in the group C, and 11 (16.42%) in the group D, with no significant difference ($P>0.05$). There were also some myopic children with blu of close-up reading within 1 month after treatment; according to the ITT analysis, there were 7 (10.00%) cases in the group A, 4 (5.71%) in the group B, 6 (8.57%) in the group C, and 8 (11.43%) in the group D, with no significant difference ($P>0.05$); according to the PP analysis, there were 5 (7.58%) cases in the group A, 3 (4.69%) in the group B, 6 (8.96%) in the group C, and 5 (7.46%) in the group D, with no significant difference ($P>0.05$).

Conclusion: Daily or every other day eye drops of 0.01% or 0.02% atropine have the same effects on pupil diameter, accommodation amplitude and equivalent sphericity of myopic children, and there was no significant difference in adverse reactions.

Keywords: **Atropine; Concentration; Administration Frequency; Children; Myopia**

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The Relationship between Serum Soluble Semaphorin 4D, Chemokine Levels and Left Ventricular Remodeling in Patients with Acute Myocardial Infarction

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Abstract:

Objective: To investigate the relationship between the levels of serum soluble semaphorin 4D (sSema4D), chemokine and left ventricular remodeling (LVRM) in patients with acute myocardial infarction (AMI).

Cases: From January 2013 to December 2019, 197 AMI patients admitted to 958th Hospital of the Chinese People's Liberation Army Ground Force were selected.

Results: Serum levels of N- terminal pro-brain natriuretic peptide, high-sensitivity C-reactive protein (hs-CRP), sSema4D, chemokine in LVRM group were significantly higher than those in non - LVRM group and control group, and those in the non-LVRM group were significantly higher than those in the control group. The left ventricular mass index (LVMI) and left ventricular end diastolic diameter (LVEDD) in LVRM group were significantly higher than those in non-LVRM group and control group, LVMI and LVEDD in non-LVRM group were significantly higher than those in control group. Pearson correlation analysis showed that serum sSema4D and chemokine levels in the LVRM group were positively correlated with LVMI ($r = 0.491, 0.521$, both $P < 0.001$) and LVEDD ($r = 0.531, 0.589$, both $P < 0.001$). Multivariate Logistic regression analysis showed that hs-CRP, sSema4D, chemokine were independent influencing factors of LVRM in AMI patients (all $P < 0.05$). ROC curve showed that the area under the curve of serum sSema4D + chemokine in predicting LVRM in patients with AMI was larger than that of sSema4D and chemokine alone (0.905 vs 0.844, 0.840) ($Z = 4.140, 3.256$, both $P < 0.05$), and the sensitivity and specificity of serum sSema4D + chemokine were also higher than those predicted by each index alone.

Conclusion: The serum levels of sSema4D and chemokine in AMI patients increase significantly, and further increase after LVRM. Those are independent influencing factors of LVRM. Combined detection of both can improve the predictive value of LVRM.

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Study on Early Enteral Nutrition Support After Cesarean Section for Parturients with Gestational Diabetes Mellitus

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Abstract:

Objective: To explore the effect of early enteral nutrition support after cesarean section on the intestinal function recovery in pregnant women with gestational diabetes mellitus grade A2(GDMA2).

Methods: A total of 136 pregnant women with planning cesarean section in this hospital from January to June 2021 were selected as the research subjects and divided into the intervention group and control group according to the block random number table generated by the SPSS system,68 cases in each group. The control group implemented the diet management according to the current nursing routine after cesarean section in obstetrics, and the intervention group was intervened by the nutrition department to give the oral nutrition solution in the early postoperative period. The time of the first anal exhausting, first defecation, initiation of lactation, blood glucose level and the incidence rate of abnormal intestinal function (including abdominal distension, intestinal obstruction, nausea, vomiting, etc.) were compared between the two groups.

Results: The time of first anal exhausting an first defecation in the intervention group were significantly shorter than those in the control group, and the incidence rates of intestinal dysfunction and abnormal blood sugar were significantly lower than those in the control group, and the differences had statistical significance (P≡0.05).

Conclusion: Early enteral nutrition support after cesarean section in GDM A2 pregnant women can accelerate the recovery of intestinal function, promote early lactation, and facilitate blood sugar management, which is worthy of clinical reference.

Keywords: Cearean Section; Enteral Nutririon; Gestational Diabetes; Pregnant Women

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A Case of Pregnancy Complicated by Isoniazid-Resistant Tuberculous Meningitis and Pulmonary Tuberculosis with Successful Treatment for Both the Mother and the Daughter

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Abstract:

This study analyses the clinical diagnosis and treatment of a patient with isoniazid-resistant tuberculosis meningitis and pulmonary tuberculosis during pregnancy. It also explores maternal and infant outcomes, as well as the factors affecting them. The aim is to provide a reference for managing similar cases of severe drug-resistant tuberculosis during pregnancy, and for preventing and treating the condition in mothers and infants.

We conducted a retrospective analysis of the entire process from the patient's admission to hospital at 29 weeks of gestation, through to the subsequent morbidity and treatment of the baby girl delivered by the patient. Based on the FDA pregnancy drug class and the WHO Drug-Resistant Tuberculosis Diagnostic and Treatment Partnership Manual (2014), we initiated a combination of anti-tuberculosis, cranial pressure-lowering (mannitol), anti-inflammatory (glucocorticoids), hepatoprotective and supportive therapies, including isoniazid, rifampicin, ethambutol, pyrazinamide and linezolid (later, isoniazid was discontinued and replaced with moxifloxacin due to drug sensitisation). We also tracked the preterm baby's tuberculosis infection and its drug-sensitisation-based anti-tuberculosis treatment after birth. We also implemented a drug-sensitization-based anti-tuberculosis regimen (rifampicin, pyrazinamide and linezolid) and adjuvant therapy (hormones, respiratory support, etc.).

The patient's condition improved after receiving an individualised anti-tuberculosis regimen, and a baby girl weighing 2.25 kg was delivered by caesarean section at 33 weeks and 6 days of gestation. Forty days after birth, the baby girl presented with disseminated tuberculosis via the bloodstream, with sputum GeneXpert positivity and drug sensitivity consistent with that of the mother (isoniazid/streptomycin resistance). She improved after receiving a combination of anti-tuberculosis treatment (rifampicin, pyrazinamide and linezolid), respiratory support and immune modulation. Treatment was discontinued after 16 months. At 18 months of age, she was found to have developed within the normal height and weight standards (75 cm, 7.5 kg).

This case demonstrates that pregnant women with severe multidrug-resistant tuberculosis (especially tuberculous meningitis) and their exposed infants can achieve a favourable outcome for both mother and baby with an individualised drug-resistant regimen that includes linezolid, provided there is an accurate diagnosis and multidisciplinary collaboration. Early recognition of TB symptoms during pregnancy and the use of molecular diagnostic techniques (e.g. cerebrospinal fluid DNA testing and GeneXpert) are essential. At the same time, healthcare professionals need to be trained to recognise the risk of TB in pregnancy, and to screen and manage exposed infants early on, including providing preventive treatment, to avoid delayed diagnosis of infant morbidity.

Keywords: **Isoniazid-Resistant Tuberculosis; Pregnancy Complications, Infectious; Linezolid; Mother-To-Child Transmission; Molecular Diagnostic Techniques**

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Therapeutic Effect of Atropine 1% in Children with Low Myopia

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Abstract:

Purpose: To evaluate the efficacy of topical atropine 1% in promoting unaided visual acuity, reducing myopia, and slowing the progression of ocular axial elongation in Chinese children with low myopia.

Methods: Children with low myopia were randomly assigned to one of two groups, receiving either atropine 1% (treatment group) or placebo eyedrops (control group) once nightly for 1 year. After instillation of 3 drops of cyclopentolate 1%, unaided visual acuity, cycloplegic refraction, and ocular axial length were tested and recorded at baseline (2 weeks after atropine or vehicle eyedrops), 3 months, 6 months, 9 months, and 1 year.

Results: A total of 132 children 7–12 years of age with a refractive error of spherical equivalent -0.50 D to -2.00 D were included. After 1 year, the mean unaided visual acuity in the treatment group was 0.31 ±0.16logMAR; in the control group, 0.66±0.15logMAR, (P<0.0001). After treatment for 1 year, there was a decrease of 0.32±0.22 D from baseline in the treatment group and an increase of -0.85±0.31 D in the control group (P<0.0001). The axial elongation in the treatment group was -0.03±0.07 mm; in the control group, 0.32±0.15 mm (P<0.0001).

Conclusions: In this study cohort, topical atropine 1% reduced the degree of low myopia and slowed the progression of ocular axial elongation in children.

Keywords: **Low Myopia, Atropine 1%, Axial Elongation, Visual Acuity**

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"Indigenous Food Habits of Santals" with Special Reference to Mayurbhanj District, Odisha

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Abstract:

India is a land of numerous culture and people. Odisha is one of the most fascinating states in India. There are as many as 62 different tribal communities and 13 Particularly Vulnerable Tribal Groups (PVTGs) inhabiting the state. They have a very interesting history of origin, custom and social practices. The santal is one of such group (PVTGs) located mainly in Mayurbhanj, Balasore, Keonjhar district of Odisha (India). However, the Majority of its population is limited to Similipal National Park and other hilly and forest region of Mayurbhanj district. They are semi-nomadic and fully depend upon the forest for their livelihood. The present study was planned with the objective to access the food Habit of the santal evaluation of some of the custom and traditional food processes adopted by them. Eight villages were randomly selected from eight Gram Panchayat of two Development block of Mayurbhanj district, Odisha (India). Food habit and food preparation are greatly influenced by the beliefs, traditions, customs and taboos of the Santal Society. The scholars all so explore the role of indigenous food habits leads to self sufficiency and create a foundation of sustainable life.

Keywords: **Santal, Food Habit, Food Belief, Mayurbhanj**

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Effect of Curcuma caesia Supplementation on Bloodbiochemical Parameters, Growth Performance, Carcass Characteristics and Gut Microbiota of Broiler Chicken

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Abstract:

Antimicrobial resistance (AMR) is a pressing global health threat that transcends the boundaries of human, animal, and environmental health, reflecting its nature as a emerging issue/. Its spread is exacerbated in low- and middle-income countries (LMICs) due to poor sanitation, limited access to healthcare, improper antibiotic use, and lack of diagnostic infrastructure. The overuse of antibiotics in livestock, particularly poultry, significantly contributes to AMR emergence. To combat this, there is growing interest in phytogenic alternatives such as turmeric (*Curcuma longa*) and black turmeric (*Curcuma caesia*), which possess antioxidant, anti-inflammatory, and antimicrobial properties. This study investigates the potential of *Curcuma caesia* as a natural feed additive in poultry production to reduce antibiotic dependency and assess its influence on growth performance, AMR profile, and meat quality of broiler chickens. The study was conducted at the Department of Veterinary Pathology and the Department of Livestock Products Technology, OUAT, Bhubaneswar. A total of 120 one-day-old broiler chicks were randomly assigned to four dietary groups: T1 (basal diet only), T2 (basal diet + tetracycline), T3 (basal diet + 5g/kg turmeric powder), and T4 (basal diet + 10g/kg turmeric powder). The trial spanned six weeks, after which birds were evaluated for growth performance (body weight, feed intake, feed conversion ratio), haemato-biochemical parameters (Hb, PCV, TEC, TLC, SGOT, SGPT, etc.), carcass and meat quality traits (dressing %, meat pH, WHC, TBARS), and antimicrobial resistance profiles of gut microbes using disc diffusion methods. Preliminary findings are expected to show that higher turmeric supplementation (T3 and T4) improves growth efficiency, immune parameters, and antioxidant levels in broilers, while reducing microbial load and drug-resistant bacterial strains. Sensory and microbial quality of meat will be evaluated to determine consumer acceptability and food safety. This research supports the hypothesis that phytogenic feed additives like black turmeric can be effective alternatives to antibiotics in poultry, thereby contributing to AMR mitigation. Results from this study can guide sustainable livestock practices and inform national action plans for AMR control, especially in resource-constrained settings.

Keywords: **Curcuma caesia, Broiler Chickens, Growth Performance, Biochemical Parameters, Antimicrobial Resistance, Carcass Traits**

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Effectiveness of Physical Activity program on Symptom Management in Adolescents with PCOS

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Abstract:

Background: Polycystic Ovary Syndrome (PCOS) is a complex endocrine disorder affecting adolescent girls, characterized by symptoms including menstrual irregularities, hyperandrogenism, and metabolic disturbances. Globally, PCOS affects 5%–15% of women, approximately 116 million. These statistics underscore the necessity of continued research and public health strategies for effective management, particularly in young populations. Vigorous aerobic exercise enhances body composition, insulin resistance, and cardiovascular health. This study evaluates structured exercise interventions for adolescents with PCOS, aiming to establish evidence-based strategies that enhance both physical and mental well-being while promoting long-term lifestyle adherence. Integrating exercise recommendations into routine clinical practice is essential, alongside interdisciplinary collaboration involving endocrinologists, nutritionists, and mental health professionals to ensure holistic management strategies.

Aim: The study aimed to evaluate the effectiveness of a Physical Activity program on Symptom Management in Adolescents with PCOS.

Methodology: A pre-experimental, one-group pre-test-post-test design was used to assess the impact of a physical activity program on PCOS symptoms in 150 adolescent females aged 12–19 years. Participants were recruited through convenience sampling from selected schools, with ethical approval and informed consent obtained before the intervention. Those with other serious medical conditions were excluded.

Intervention: The structured physical activity program lasted 8 weeks, incorporating aerobic exercises, strength training, and flexibility routines designed to improve fitness and reduce symptoms. Sessions were conducted three times a week, lasting 45–60 minutes under supervision to ensure correct technique and adherence.

Collection Procedure: Pre-intervention assessments included the PCOS Symptom Scale and anthropometric measurements—weight, height, BMI, and waist circumference. After 8 weeks, participants repeated the symptom scale, and final anthropometric measurements were recorded to evaluate changes in symptoms and health indicators.

Results: Post-intervention analysis revealed significant improvements, with reductions in the severity of symptoms such as darkened skin (from 56.45% to 29.03%), bodily pain (lower back) (from 54.84% to 37.10%), and weight loss (from 54.84% to 27.42%). Anthropometric measures also showed significant reductions in weight, BMI, and waist circumference (p-value < 0.05), confirming the effectiveness of the program in improving physical health indicators.

Conclusion: The study concludes that structured physical activity significantly enhances health outcomes for adolescents with PCOS. Improvements in weight, BMI, and waist circumference validate the program's efficacy in addressing PCOS-related complexities. Integrating exercise into clinical practice is crucial for sustainable health benefits.

Keywords: **Polycystic Ovary Syndrome, Adolescents, Physical Activity**

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Optimal Factory Location Selection with a Sustainable Development Approach: An Analytical Hierarchy Process (AHP) Approach

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Abstract:

Sustainable development serves as a guiding principle in industrial and economic planning, and this comprehensive study focuses on identifying the optimal location for establishing a factory based on various sustainability-related criteria. We have identified three key areas of focus: social, economic, and environmental, each consisting of specific sub-criteria.

The social aspect encompasses factors such as job creation, access to public services, urban infrastructure, and community satisfaction. The economic dimension includes considerations of transportation and raw material costs, investment returns, and market potential. The environmental aspect addresses pollution levels, proximity to sensitive areas, regulatory compliance, and waste management.

Utilizing the Analytical Hierarchy Process (AHP), this study conducted pairwise comparisons to determine the relative importance of each criterion and sub-criterion. In the final step, potential locations could be evaluated by researchers and specialists based on these established criteria. The findings primarily indicate that the location with the highest overall score is the most suitable site for factory construction. The model also includes sensitivity analysis to assess how changes in the weighting of criteria may influence the final decision.

This work presents a practical and robust framework for multi-criteria decision-making, which can be readily applied to industrial planning and other sustainability-oriented projects.

Keywords: **Sustainable Development, Analytical Hierarchy Process (AHP), Social, Economic, Environmental Criteria**

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Metabolite Profiling of 19MAT and Comparison of *in silico* and *in vivo* Data using High-Performance Liquid Chromatography/Triple Quadrupole Mass Spectrometry (HPLC-TQMS)

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Abstract:

The study aimed to evaluate the pharmacokinetic (PK) profile of 19MAT (19–monoaminothiazole, synthesized for its antiviral activity evaluation against the dengue virus (DENV)), following oral (PO) and intravenous administration (IV) to male Sprague Dawley rats. A robust and sensitive method with liquid chromatography–tandem mass spectrometry (LC-MS/MS) was developed and validated in rat plasma and used to quantify 19MAT in PK samples. The LC-MS/MS method used the multiple reaction monitoring (MRM) mode. The linearity range was 1.27 to 1270 ng/mL with a 48 to 63% matrix recovery. The matrix factor of 1.06 ± 0.00 at low quality control (QC) level and 1.20 ± 0.03 at higher QC level. The percentage relative standard deviation (% RSD) of intra- and inter-day precisions ranged from 3.91% to 6.56% and 5.27% to 10.79%, respectively. Relative error (RE) ranged from -1.61 to 6.04 % (Interday) and 0.81 to 6.63 % (Intraday). 19MAT was stable in rat plasma for 45 days at -20°C and -70°C. The concentration-time profile showed higher plasma clearance and volume of distribution (Vss), resulting in a moderate plasma half-life of 4.20 h for 19MAT. Oral absorption was fast, with bioavailability of 23.82%. Seven metabolites were identified in plasma, urine, and feces involving hydroxylation/dihydroxylation, O-dealkylation, and glucuronidation.

Keywords: DENV, LC-MS/MS, Pharmacokinetic, Metabolites, 19MAT

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Iron Supplementation Program for Pregnant Women in Indonesia: Challenge and Barriers

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Abstract:

Indonesia has implemented the iron supplementation program for pregnant women as interventions to prevent stunting. Karawang Regency, West Java Province, Indonesia continues to encounter intricate issues associated with this, 8,285 pregnant women were affected by obstetric complications in 2021, resulting an increase in the number of infant mortalities and low birth weight. The objective of this research is to assess the challenge and barriers of the iron supplementation program for pregnant women in Karawang Regency which utilises the women empowerment paradigm based on Rowlands (1997). A mixed-method explanatory sequential design was performed in this study. Individually, many pregnant women do not have proper understanding about the importance of iron supplementation to indirectly prevent stunting. Financial constraints and time constraints due to work activities prevent women from prioritizing their health needs. From a relational aspect, pregnant women's health choices are strongly influenced by their social relationships, including family members, husbands, and health professionals. Collectively, the health service system and social infrastructure in Karawang Regency are not evenly distributed to meet the needs of pregnant women. Enhanced health education, better access to healthcare services, and more targeted support from family members and healthcare providers are necessary to improve adherence to iron supplementation during pregnancy.

Keywords: **Iron Supplementation, Maternal Health, Pregnancy, Stunting Prevention, Women's Empowerment**

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Association between Blood Urea Nitrogen Levels and the Risk of Diabetes Mellitus in Chinese Adults: Secondary Analysis based on a Multicenter, Retrospective Cohort Study

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Abstract:

Background: As one of the recognized indicators of kidney function, blood urea nitrogen (BUN) is a key marker of metabolic diseases and other diseases. Currently, data on the relationship of BUN levels with the risk of diabetes mellitus (DM) in Chinese adults are sparse. This study aimed to investigate the correlation between BUN levels and DM risk in Chinese adults.

Data and Methods: This study is a secondary analysis of a multicenter, retrospective cohort study with data from the Chinese health screening program in the DATADRYAD database. From 2010 to 2016, health screening was conducted on 211833 Chinese adults over the age of 20 in 32 locations and 11 cities in China, and there was no DM at baseline. Cox proportional hazards regression analysis assessed an independent correlation between baseline BUN levels and the risk of developing DM. The Generalized Sum Model (GAM) and smoothed curve fitting methods were used to explore the nonlinear relationship. In addition, subgroup analyses were performed to assess the consistency of correlations between different subgroups and further validate the reliability of the results.

Results: After adjusting for potential confounding factors (age, sex, etc.), BUN levels were positively correlated with the occurrence of DM (HR=1.11, 95% CI (1.00~1.23)). BUN level had a nonlinear relationship with DM risk, and its inflection point was 4.2mmol/L. When BUN was greater than 4.2mmol/L, BUN was positively correlated with DM, and the risk of DM increased by 7% for every 1 mmol/L increase in BUN ($P<0.05$). Subgroup analysis showed that a more significant correlation between BUN levels and DM was observed in terms of sex, BMI, systolic blood pressure (SBP), diastolic blood pressure (DBP), total cholesterol (TC), triglycerides (TG), low-density lipoprotein (LDL), alaninetransaminase (ALT), aspartate transaminase (AST), creatinine (Cr) and smoking status (interaction $P<0.05$).

Conclusion: High levels of BUN are associated with an increased risk of DM in Chinese adults, suggesting that active control of BUN levels may play an important role in reducing the risk of DM in Chinese adults.

Keywords: **Urea Nitrogen, Diabetes, Adult, Risk of Disease, Correlation**

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Infection Prevalence and Antibiotic Resistance Levels in Ureaplasma urealyticum and Mycoplasma hominis in Gynecological Outpatients of a Tertiary Hospital in China from 2015 to 2018

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Abstract:

Objective: The aim of this study was to estimatc the Ureaplasma urealyticum and Mycoplasma hominis infection prevalence and antibiotic resistance levels in gynecological outpatients.

Methods: Clinical characteristics and laboratory data of gynecological outpatients of the Fourth People's Hospital of Chongqing from 2015 to 2018 were retrospectively analyzed. Antibiotic resistance levels in *U. urealyicum* and *M. hominis* were defined by a commercial Mycoplasma kit for antibiotic susceptibility testing. Univariate analysis and multivariate logistic regression analysis were performed to evaluate risk factors associated with Mycoplasma isolation. Comparisons of yearly distributions and resistance rates were assessed by chi-square tests.

Results: Fifty-six percent of gynecological outpatients were posilive for *U. urealyticum*, and 11.02% were positive for *M. hominis*. In the univariate analysis, women aged 30–39 years or with a history of pregnancy or gynecological discases had an increased risk for *Mycoplasma isolation*, while women who were postmenopausal or had an education level of undergraduate degree or above had a decreased risk of *Mycoplasma isolation*. In the multivariate logistic regression model, an independent risk factor for *Mycoplasma isolation* was a history of gynecological diseases, while a bachelor's degree, master's degree, or above were protective factors against Mycoplasma isolation. There were distinctly gradual increases in the positivity rates of *U. urealyticum* and *M. hominis* from 2015 to 2018 and an overall increasing trend of resistance to ten antibiotics among *U. urealyticum* and *M. hominis*. The top three antibiotics associated with resistance were ofloxacin, sparfloxacin, and levofloxacin. Doxycycline, josamycin, and minocycline were preferred because they had the lowest levels of resistance.

Conclusion: Increases in the prevalence of infection and antibiotic resistance in *U. urealyticum* and *M. hominis* were observed from 2015 to 2018, clearly confirming the necessity to monitor the standardized administration of antibiotics.

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Efficacy of Levosimendan Combined with Diuretics in the Treatment of Refractrant Heart Failure and Effects on NT-proBNP, hs-CRP, and IL-6 Levels

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Abstract:

Refractory heart failure is a common critical condition in clinical practice,and the efficacy of conventional treatment is often limited. This study aimed to investigate the therapeutic effect of levosimendan combined with diuretics for treating refractory heart failure and its impact on NT-proBNP, hs-CRP, and IL-6 levels. A total of 64 patients admitted with refractory heart failure from January to December 2019 were enrolled and randomly divided into an observation group (32 cases) and a control group (32 cases). The control group received furosemide treatment (100 mg via an intravenous pump infusion, twice daily), while the observation group received the same treatment as the control group, plus an additional levosimendan treatment (a loading dose of 12 μg/kg via an intravenous injection, followed by a continuous infusion at 0.075 μg/kg/min for 24 hours). The total treatment efficacy and changes in serum NT-proBNP, hs-CRP, and IL-6 levels were then compared between the two groups.

The results showed that the total effective rate in the observation group was significantly higher at 93.75% (30/32) than in the control group at 68.75% (22/32) ($P<0.05$). After treatment, the levels of NT-proBNP, hs-CRP, and IL-6 in the observation group were 1668.78±246.55 μg/L, 3.99±1.56 mg/L, and 20.32±4.84 μg/L, which were significantly lower than those in the control group (1954.55±206.77 μg/L, 5.85±1.55 mg/L, 26.91±4.58 μg/L, respectively) ($P<0.05$ for all).

The study suggest that levosimendan combined with diuretic therapy can effectively alleviate myocardial injury and inflammatory response, and delay the progression of refractrant heart failure. This study provides a new combined medication regimen for the clinical treatment of refractory heart failure, confirming that levosimendan combined with diuretics is an effective treatment worthy of clinical promotion.

Keywords: **Refractory Heart Failure; Levosimendan; Diuretics; NT-proBNP; Inflammatory Factors**

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Application of Diffusion Weighted Imaging in Quantitative Evaluation of Active Ulcerative Colitis

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Abstract:

Objective: To investigate the diagnostic value of diffusion weighted imaging (DWI) in active ulcerative colitis (UC).

Methods: The clinical and imaging data of 80 patients with UC who were treated in the hospital from 2018 to the present were retrospectively analyzed. With the diagnostic results of intestinal endoscopy as the golden standard, the patients were divided into active group (UC in active phase, n=73) and inactive group (UC in inactive phase, n=7). All patients underwent CT and MRI examinations. The CT and MRI image features, apparent diffusion coefficient (ADC) values of the two groups were analyzed. ROC curve was used to evaluate the diagnostic value of ADC value in active UC.

Results: MRI findings mainly included colorectal mucosa and submucosa with high signal or slightly higher signal on T1WI, high signal or isointensity on T2WI. All diseased intestinal segments showed different degrees of increased signals on DWI. The ADC value of active group was significantly lower than that of inactive group ($P<0.05$). The ROC curve analysis results showed that the AUC value of ADC value for diagnosing active UC was 0.795 (95% CI: 0.691–0.878, $P<0.05$), indicating high diagnostic performance. With the diagnostic results of intestinal endoscopy as the golden standard, the sensitivity, accuracy and negative predictive value of DWI for diagnosing active UC were higher than those of CT ($P<0.05$).

Conclusion: CT and MRI findings of UC are characteristic. DWI is helpful for differential diagnosis of active UC, and it can be used as an effective method for diagnosing the stage of UC.

Keywords: **Ulcerative Colitis; CT; MRI; Diffusion Weighted Imaging; Diagnostic Value**

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Socialization of Malaria as Endemic in Iran (Communication Analysis)

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Abstract:

According to UNICEF, Iran's Primary Health Care (PHC) System is known to be a role model program for the Health sector that can be adopted by other countries, both in terms of network expansion and outreach as well as successful relationships between the Health Sector and Medical Education institutions, such as Medical Universities.

Other development in this sector including The World Health Organization (WHO) that has launched a new project with financial support from the Government of Japan to revive malaria prevention and control in the southeastern province of Iran, where there are many elderly people and toddlers as well as Afghan refugees. Iran is on the right track to eradicating malaria. But recently, floods caused by climate change have impacted the country, the presence of these floods has expanded mosquito habitats and encouraged the transmission of malaria.

The Reinforcing Malaria Elimination as Humanitarian Assistance in the Islamic Republic of Iran project initiated by WHO will run throughout 2024. WHO is implementing the project together with the Iranian Ministry of Health and Medical Education, the WHO website reported on March 20. 2024 (www.tehran times.com March 23, 2024)

The expansion of mosquito habitat in the country's southeastern provinces is a direct result of climate change-induced flooding in Pakistan in 2022. Following this, malaria incidence increased more than fivefold from 2022 to 2023 in another Iranian province, namely Sistan -Baluchestan. This is important for countries that did not report any malaria cases in 2018 and 2019.

Sistan-Baluchestan was hit by heavy rains and floods in February 2024 and the cross-border population movements that occur constantly in the southeastern border provinces of the Islamic Republic of Iran could make these and other conditions can further encourage local transmission. This is important for these border areas which vulnerable place for malaria spreading to carry out prevention and control efforts.

Jaffar Hussain, WHO Representative and Head of Mission to the Islamic Republic of Iran, emphasized the importance of collaborative action with the Government of Japan: "The financial support provided by the Japanese people comes at a critical time, following the recent heavy rains and flooding in the province of Sistan- Baluchestan by the end of February 2024. Through joint efforts and continued investment, WHO and its international and local partners remain steadfast in their commitment to fighting malaria and safeguarding public health in the Islamic Republic of Iran and beyond."

"The impact of climate change has caused frequent flooding in many parts of the world, including Iran," said His Excellency Tamaki Tsukada, Ambassador of Japan to the Islamic Republic of Iran. "Malaria, one of the 3 main infectious diseases in the world, spreads through mosquitoes after floods. To protect Iranians from malaria, it is important to eradicate mosquitoes, protect themselves from mosquitoes, and promptly diagnose and treat malaria cases in their early stages. We hope this project will strengthen Iran's crisis response capacity and prevent the spread of malaria and other infectious diseases". (www.tehran times.com March 23, 2024)

Japanese funding aims to reduce the risk of malaria transmission in Sistan-Baluchestan province. WHO will support the Ministries of Health and Medical Education to enable indoor residual spraying and mosquito eradication, as well as distribute long-lasting insecticidal nets containing pyrethroids. This will also support the Ministry to strengthen surveillance by increasing laboratory diagnostic capacity to detect and diagnose malaria cases. Furthermore, WHO will help improve risk communication and community engagement to reach target populations with appropriate health messages on how to protect themselves from malaria. (www.tehran times.com March 23, 2024).

Keywords: **Health Service System, Cooperation Between Two Countries, WHO, Socialization, Public Communication Process**

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Role of Yoga in Health Care

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Abstract:

Yoga, an ancient practice rooted in Indian philosophy, has gained global recognition as a holistic approach to health and wellness. This article explores the growing role of yoga in modern health care, emphasizing its physical, mental, and spiritual benefits. From stress reduction to chronic disease management, yoga contributes to preventive, promotive, and rehabilitative health care strategies. It integrates mind-body practices such as asanas (postures), pranayama (breathing techniques), and meditation to foster harmony between body and mind. Scientific studies increasingly validate its efficacy in improving cardiovascular health, managing diabetes, reducing anxiety, and enhancing quality of life. The article also highlights the incorporation of yoga in clinical settings and public health initiatives, underscoring its potential as a complementary therapy within integrative medicine.

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Systematic Analysis of the Impact of Wet Wipes and Intimate Hygiene Wipes on Biogas Stations in Municipal Water Treatment Plants

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Abstract:

This study analyzes the impact of wet wipes and intimate hygiene wipes on the operation of biogas stations in municipal water treatment plants. Although these products are increasingly used in households, their design from non-biodegradable materials causes significant disruptions in anaerobic sludge treatment processes. The research methodology included comparative analysis of operational parameters in 18 WWTPs (wastewater treatment plants) before and after implementation of advanced pre-filtration systems. Based on the data examined, the results indicate that wipes account for 60–75% of mechanical blockages in anaerobic digesters, reducing biogas production by 15–30% and increasing operational costs by about 23%. Implemented pre-filtration systems have demonstrated a 92–97% retention efficiency of these materials, leading to optimized digester performance and increased biogas production by 18%. The study emphasizes the need for stricter public policies on product labeling and consumer education, as well as the implementation of advanced pre-treatment technologies for the long-term sustainability of the treatment infrastructure.

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Non-Hodgkin's Lymphoma (NHL) Classification using Optimized Inception V3-DBO Model

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Abstract:

Non-Hodgkin Lymphoma (NHL) is a diverse group of blood cancers that vary significantly in their behavior and treatment response. Accurate classification of NHL is critical for appropriate treatment planning and prognosis. Leveraging pre-trained optimization-based deep learning models can substantially enhance the accuracy and efficiency of NHL classification. In this paper, NHL classification is done using an optimized InceptionV3 model. The pre-trained model InceptionV3 extracts features from the images that can capture high-level features relevant to NHL. To fine-tune the hyperparameters and enhance the model's learning capabilities, the metaheuristic optimization Dung beetle optimizer (DBO) is presented. Experimental results show that the proposed InceptionV3-DBO attains higher accuracy, sensitivity, specificity, precision, F1-score, MCC, and KC values when compared to the other pre-trained models.

Keywords: Non-Hodgkin Lymphoma, deep learning, Dung beetle optimizer, Inception V3, Bloodcancer

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Occupational and Environmental Risk Factors of Pregnant Workers: Systematic Review

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Abstract:

Despite numerous national and global programs focused on maternal and child nutrition, industrial workers are often overlooked in policy and practice. These workers frequently expose by several occupational hazards yet lack access to antenatal care and workplace accommodations that would support maternal health. This paper seeks to synthesize current evidence on occupational hazards in pregnant workers and its effect on pregnancy complication and birth outcomes that risk to stunting. This review searched Pubmed, and Scopus artificial intelligent for 2010–2025 literature on pregnant workers and low birth weight/preterm birth related articles. This review highlights a wide range of workplace hazards during pregnancy that affect birth outcomes such as preterm birth and low birth weight (stunting-risk baby). This study combines 40 eligible english language articles, then it classified an occupation exposure that affect birth outcome into nine main categories: biological, physical, chemical, radiation, infectious, psychological, socio-economic, biomechanics, and organisationals governance. Even though there are a lot of evidence that pregnancy risks might appear as a result of occupational hazard exposure, occupational health and maternity protection legislation have not done enough effort to address them, especially in informal and low-resource workplaces. To lower health disparities and stunting between generations, we need better employment rights, better integration of maternity care, and more support for labour governance.

Keywords: Industrial workers, Low Birth Weight, Pregnancy, Preterm Birth, Public health, Stunting

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Environmental Conservation, Biodiversity, Climate Change & Pollution Control

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Abstract:

This research aims to investigate the interconnected challenges of environmental conservation, climate change, biodiversity loss, and pollution control in the context of the latest global and Indian developments up to 2025. The study seeks to identify integrated strategies for sustainable development, emphasizing policy recommendations, technological innovations, and community-driven solutions to address these pressing issues. The study employs a mixed-method approach, combining qualitative and quantitative analyses. Data were collected from diverse sources, including Indian books, UGC (University Grants Commission) journals, CSIR (Council of Scientific and Industrial Research) publications, NCSTC (National Council for Science and Technology Communication) resources, and international databases such as Web of Science and Scopus. Additionally, global environmental websites and IRIS (Indian Research Information System) were utilized for comprehensive data collection. The latest data up to 2025 were analyzed to identify trends in climate change impacts, biodiversity degradation, and pollution levels. Qualitative insights were derived from case studies, expert interviews, and field observations, ensuring a holistic understanding of the issues. The findings highlight the critical role of integrating environmental conservation, climate action, biodiversity preservation, and pollution control into sustainable development frameworks. The study underscores the urgency of addressing these challenges to achieve the United Nations Sustainable Development Goals (SDGs) by 2030. It emphasizes India's unique position as a biodiversity-rich nation vulnerable to climate change and pollution, offering context-specific recommendations for sustainable growth. The research also explores the potential of green technologies, circular economies, and community-based conservation initiatives to foster resilience and sustainability.

Keywords: Environmental Conservation, Climate Change, Biodiversity, Pollution Control, Sustainability, SDGs, India, IRIS, CSIR, NCSTC, Web of Science, Scopus, UGC Journals

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Desk Review of Food Safety Emergency Response in Eight African Countries: Policy Evaluation, Response Mechanisms, and Infrastructure Gaps

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Abstract:

Foodborne diseases (FBDs) impose a heavy burden in Africa, yet the capacity for emergency response to food safety incidents varies widely across countries. This study evaluates food safety emergency response frameworks in eight African nations; Nigeria, Egypt, Ghana, Kenya, Ethiopia, Uganda, Cameroon, and South Africa, selected for regional and developmental diversity. The national policies, response mechanisms, and infrastructure gaps, were analysed drawing on publicly available data and case studies. Findings reveal that while policy initiatives such as new food safety authorities and national plans are emerging, most countries face fragmented oversight, limited laboratory and surveillance capacity, and weak coordination for outbreak response. Notable incidents, such as Kenya's 2004 aflatoxin poisoning (317 cases, 125 deaths) and South Africa's 2017–2018 listeriosis outbreak (world's largest) underscore the consequences of delayed response and highlight gaps in preparedness. Countries with recent reforms (Egypt's unified Food Safety Authority, Ghana's emergency plan) show progress, but others continue to struggle with outdated laws, resource constraints, and poor inter-agency communication. Strengthening national food safety systems through coherent policy, integrated response mechanisms, improved infrastructure, and regional collaboration is critical to reduce health risks. I conclude with policy recommendations emphasizing a One Health approach, capacity building, and effective coordination to improve food safety emergency responses across Africa.

Keywords: Africa; Emergency Response; Food Safety; Foodborne Outbreaks; Infrastructure Gaps; Policy Evaluation

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Broken Narratives: Reimagining Dalit Identity and Dignity in Contemporary Indian English Literature

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Abstract:

The question of caste, particularly the lived experience of Dalits in India, has historically been excluded or diluted in mainstream literary discourses. However, contemporary Indian English literature is witnessing a significant shift in both form and content, marked by the emergence of what may be called "broken narratives" — stories that challenge, fragment, and subvert traditional representations of Dalit identity. This paper investigates the evolving portrayal of Dalit subjectivity and dignity in recent Indian English fiction and non-fiction, focusing on how these texts interrogate structural caste oppression while foregrounding resilience, agency, and human dignity.

Drawing on theoretical frameworks from postcolonial studies, subaltern theory (Spivak, Guha), and intersectionality (Crenshaw), this study critically examines selected texts such as *The Ministry of Utmost Happiness* by Arundhati Roy, *When I Hit You* by Meena Kandasamy, and *Coming Out as Dalit* by Yashica Dutt. These works, while stylistically and thematically distinct, share a common thread — a refusal to conform to sanitized narratives of caste and nationhood. Instead, they articulate a politics of disruption, often expressed through non-linear timelines, testimonial realism, metafiction, and linguistic hybridity.

The term "broken narratives" in this context serves a dual purpose. Firstly, it reflects the fragmented, dislocated nature of Dalit lives under systemic casteism — often marked by violence, displacement, and silencing. Secondly, it alludes to the deliberate fracturing of narrative form and aesthetic conventions as a mode of resistance. These literary strategies not only dismantle dominant savarna perspectives but also assert an alternative epistemology grounded in the lived realities of Dalit communities. The use of English as the medium — often criticized for its elite, urban, and upper-caste associations — becomes, in the hands of these writers, a tool for both reclaiming space and engaging with global audiences.

This paper further explores how the selected authors reconfigure the concept of dignity — not merely as a moral or legal entitlement, but as an existential assertion in the face of dehumanization. Through embodied characters, autobiographical interventions, and powerful metaphors, Dalit dignity is reimagined not as something granted by the dominant caste system, but as inherently owned, articulated, and fought for.

In conclusion, this study argues that contemporary Indian English literature is not merely representing Dalit identity but is actively participating in its transformation. These narratives, though often "broken" in structure and subject matter, are deeply coherent in their political vision — offering not only critique but also hope, solidarity, and new imaginaries. The paper advocates for recognizing these works as integral to the Indian literary canon, and for rethinking literary hierarchies that have historically marginalized Dalit voices.

Keywords: Dalit Literature, Caste Oppression, Indian English Writing, Subaltern Studies, Narrative Disruption, Dignity and Resistance

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NutriScan AI: A Clinical-Grade Multilingual Assistant for Food Label Risk Assessment and Personalized Nutrition Guidance

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Abstract:

Background: Understanding food labels is a critical yet often overlooked skill in chronic disease management and preventive nutrition. In the multilingual populations with varying literacy levels, misinterpretation of packaged food labels can result in unintentional consumption of harmful ingredients, especially for those with diabetes, hypertension, kidney disorders, or food allergies.

Objective: This project introduces NutriScan AI, a custom-built clinical-grade GPT tool designed to evaluate food labels in real-time, detect dietary risks, and generate multilingual nutrition guidance personalized to an individual's health profile.

Methodology: NutriScan AI uses advanced OCR and GPT-based natural language processing to extract and analyze food label data, including nutritional values, additives, allergens, and ingredient warnings. It cross-references the extracted data with regulatory standards from FSSAI, ICMR, FDA, Codex Alimentarius, ADA, WHO and AAAAI. The tool flags high-risk items such as excessive sugar, sodium, or harmful additives, and provides compatibility analysis based on chronic conditions like diabetes, chronic kidney disease (CKD), cardiovascular disease (CVD) and food allergies. Its unique multilingual output generates personalized summaries and printable handouts in English and Tamil, with planned expansion into Hindi and other regional languages.

Results: Preliminary pilot testing demonstrates that NutriScan AI enhances:
- Label comprehension among patients with limited health literacy
- Clinical decision-making for doctors and dietitians in outpatient settings
- Awareness of regulatory compliance in packaged foods for public health education

Conclusion: NutriScan AI serves as an innovative bridge between food label literacy and preventive health. Its multilingual design, standards-based analysis, and real-time guidance make it a scalable tool for both individual users and clinical environments. This presentation highlights its design logic, use cases, and potential public launch as a free digital health tool.

Keywords: Food label analysis, diabetes nutrition, clinical AI, multilingual health tech, food safety, OCR, preventive care, chronic disease management, FSSAI, NutriScan AI

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Glutamate Receptor Antagonists in Neurological Disorders: Therapeutic and Toxicological Perspectives

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Abstract:

Glutamate is the primary excitatory neurotransmitter in the central nervous system (CNS), playing a crucial role in synaptic transmission, plasticity, learning, and memory. However, excessive glutamate release or impaired reuptake leads to excitotoxicity—a pathological process implicated in a range of neurological disorders, including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), epilepsy, ischemic stroke, and traumatic brain injury. Glutamate receptor antagonists, particularly those targeting N-methyl-D-aspartate (NMDA), ≡-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA), and kainate receptors, have emerged as promising therapeutic agents aimed at mitigating neuronal damage by modulating excitotoxic signaling pathways.

This paper provides a comprehensive review of the current understanding of glutamate receptor antagonists as neuroprotective agents. It discusses their mechanisms of action, pharmacological classifications, and therapeutic efficacy across various preclinical and clinical models. Special attention is given to the clinical application of NMDA receptor antagonists such as memantine and ketamine, highlighting both their therapeutic utility and limitations. Despite promising outcomes in preclinical studies, clinical translation has been hindered by dose-limiting side effects, including cognitive impairment, psychotomimetic effects, and disruptions in normal synaptic activity.

Additionally, the paper explores emerging strategies to enhance the specificity and safety of glutamate receptor antagonists, such as subunit-selective agents, allosteric modulators, and drug delivery innovations that cross the blood-brain barrier. The toxicological profile of these compounds is critically analyzed, emphasizing the delicate balance between therapeutic neuroprotection and potential neurotoxicity.

In conclusion, while glutamate receptor antagonists offer significant potential in the treatment of neurological diseases characterized by excitotoxicity, their clinical success depends on overcoming key challenges related to specificity, toxicity, and pharmacokinetics. Future research must focus on developing safer, more targeted therapies that preserve physiological glutamate function while preventing pathological overactivation.

Keywords: Glutamate Receptors, Excitotoxicity, NMDA Receptor Antagonists, AMPA Receptor Modulation, Neurodegenerative Disorders

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Detection of Functionally Relevant Non-Synonymous SNPs in the SLC11A1 Gene and Their Association with Spinal Tuberculosis Susceptibility

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Abstract:

Single Nucleotide Polymorphisms (SNPs) are essential in understanding the genetic basis of complex human diseases and traits. Functional characterization of SNPs, particularly in disease-related genes, remains a major challenge. In this study, computational approaches were used to assess the genetic variation within the SLC11A1 gene, which encodes the NRAMP1 protein associated with susceptibility to Spinal Tuberculosis (STB). Among 7,243 identified SNPs, 536 were found to be missense/non-synonymous (nsSNPs). A multi-tool analysis was performed using PolyPhen-2, PROVEAN, SIFT, I-Mutant, PANTHER, PhD-SNP, and Meta-SNP to predict the functional impact of nsSNPs. PolyPhen-2 identified 235 nsSNPs as probably damaging; PROVEAN and SIFT identified 171 and 163 as deleterious, respectively. I-Mutant predicted 182 nsSNPs to affect protein stability. Additionally, 262, 214, and 243 nsSNPs were flagged as potentially harmful by PANTHER, PhD-SNP, and Meta-SNP, respectively. Comparison across all tools shortlisted 11 high-risk nsSNPs: rs139480250 (Ala173Thr), rs141932707 (Ile40Thr), rs145536242 (Leu174Pro), rs150192588 (Phe188Leu), rs151164925 (Ser46Leu), rs182057473 (Tyr395Cys), rs182057473 (Tyr364Cys), rs201910426 (Arg16Cys), rs367630718 (Tyr94Cys), rs375775521 (Gly271Ser), and rs377166486 (Asn362Ser). Structural modeling and homology analysis of previously validated SNPs indicated higher energy and RMSD values in mutant models, suggesting conformational instability. FT-Site predicted rs150192588 (Phe188Leu) to lie within the primary binding region of the NRAMP1 protein. STRING analysis further supported functional interactions of NRAMP1.

Conclusion: This computational analysis highlights 11 potentially deleterious nsSNPs in the SLC11A1 gene. These variants may serve as valuable targets for further functional studies and pharmacological research in the context of spinal tuberculosis.

Keywords: SLC11A1; NRAMP1; Spinal Tuberculosis; SNPs; Homology Modeling; FT-Site

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Therapeutic Role of Glycyrrhiza glabra (Licorice Root) in Acid Peptide Disorder: A Meta-Analytical Review

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Abstract:

Acid Peptide Disorder (APD), characterized by excess gastric acid and pepsin secretion, presents with symptoms like reflux, indigestion, and mucosal irritation. This meta-analytical review evaluates the therapeutic potential of functional foods in managing APD, with a specific focus on licorice root (*Glycyrrhiza glabra*). Analysis of 35 peer-reviewed studies highlights the efficacy of licorice's bioactive compounds—especially glycyrrhizin and flavonoids—in mucosal protection, anti-inflammatory action, and symptom relief. Licorice, widely known as *Mulethi* in India, emerges as a promising natural adjunct to conventional therapy, offering gastroprotective benefits with minimal side effects. The findings support the integration of functional foods into dietary interventions for APD management.

Keywords: Acid Peptide Disorder, Functional Foods, Licorice Root, Glycyrrhiza glabra, Mulethi, Gastroprotection, Meta-analysis, Dietary Therapy

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