



National Scientific Conclave on Interdisciplinary

Abstracts of invited speakers

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National Scientific Conclave on Interdisciplinary

Omics Advancements and the Road Map of Precision Medicine in Diabetes

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Abstract

Omics technologies and clinically relevant biomarkers are increasingly emerging to be a part of ‘personalized medicine’ or ‘precision medicine’. There are some spectacular progresses made through genetic findings in the diagnosis and management of monogenic diabetes subtypes such as MODY (Maturity On-set Diabetes in Young) & Neonatal Diabetes. In the context of proteomics, our team has pioneered and demonstrated increased glutathionylated hemoglobin (HbSSG) as a biomarker in patients with T2DM, particularly those progressing to diabetic retinopathy. We have reported the association of differentially expressed miRNAs and long non-coding RNAs (LncRNAs) & an augmentation of histone deacetylase (HDAC) epigenetic signatures in T2DM patients. Very recently, we have demonstrated the ‘liquid-biopsy’ biomarker value of exosomal miRNAs from urine for the risk prediction of diabetic nephropathy. Evidence is also accumulating to endorse that ‘pharmacogenomics’ can aid in the choice of therapy for T2DM. The concept that ‘your fate of diabetes is not only determined by your own genome but also by your gut microbiome’ is also gaining momentum through ‘metagenomics’ studies. Recent ‘metabolomics’ studies also endorse distinct and discriminative changes in certain branched chain amino acids (BCAAs), short chain fatty acids (SCFAs) and bile acids in T2DM patients. At a time when several subtypes of T2DM have been very recently reported worldwide as well as by our institution, the road map for precision diagnosis and precision medicine is already in the track. The task before us is to integrate these concerted efforts of omics technological advancements for their clinical utility with affordability so that they will be a real ‘value addition’ in clinical settings both for diabetes prevention as well as better diagnosis and treatment. Therefore, there is a demanding need for the development of point-of-care (POC) technologies and medical devices so as to capitalize the omics advancements of integrated medicine to suit the primary health care centers and low-resource clinical settings.



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Nutrition Dynamics for the Prevention and Management of Diabetes Mellitus

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Abstract

Diabetes Mellitus is the most common metabolic disorder affecting 7.9 billion worldwide in 2021 with a projected increase to 8.6 billion in 2030. In 2021, 74.2 million adults were diagnosed with diabetes mellitus in India imposing a substantial economic burden not only on the family but also on the country and its healthcare systems. Rapid urbanization, transition in eating patterns and behaviors and increase in sedentary lifestyle have all contributed to this metabolic disorder. Gestational diabetes mellitus has also contributed to the trans-generational cycle of diabetes mellitus. There is the need for targeted early intervention focusing on early risk assessment for gestational diabetes mellitus. Risk screening for gestational diabetes mellitus followed by a protocol-based medical nutrition therapy comprising of customized well-balanced diet with regular physical activity have been reported to reduce the risk for developing gestational diabetes mellitus and future diabetes mellitus. Most of the studies demonstrate the need for healthy diet and lifestyle as the primary step in prevention of diabetes mellitus. Management of diabetes mellitus on the other hand encompasses balancing the intake of macronutrient intake especially carbohydrates, proteins and fats, inclusion of adequate amounts of fiber, avoiding simple sugars and saturated fats thereby achieving blood glucose levels, lipid levels and blood pressure within limits. Adoption of these measures requires individual transformations as well as country specific policy-level strategies that can bring about sustainable nutrition and lifestyle modifications towards prevention of diabetes mellitus.



National Scientific Conclave on Interdisciplinary

Current holistic approach in treatment of Diabetes

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Abstract

A holistic approach to type 2 diabetes focuses on treating the whole person, not just the disease. It involves looking at the underlying causes of the condition and addressing them through a combination of lifestyle modifications, natural therapies, and conventional medical drugs.

Holistic management of diabetes needs a team work comprises of Nutritionist, nurse, counsellor, Diabetes educator, Physician and ophthalmologist. Here are some key aspects of a holistic approach to type 2 diabetes:

* Education -Diabetes Health education is the cornerstone of therapy as Diabetes is a chronic disease.

* Diet: A balanced diet plays a crucial role in managing blood sugar levels. A holistic approach emphasizes whole, unprocessed /minimally processed foods, such as fruits, vegetables, whole grains, lean proteins, and healthy fats. Exercise: Aim for at least 30 minutes of moderate-intensity exercise 5 days a week or 150 minutes per week.

* Stress management: Chronic stress can raise blood sugar levels. Relaxation techniques such as yoga, meditation, and deep breathing can help manage stress and improve overall well-being.

* Sleep: Adequate sleep is crucial for regulating hormones like adrenaline & cortisol that control blood sugar. At least 7-8 hours of quality sleep each night is essential. Improved blood sugar control.

* Reduced stress: Stress can worsen diabetes by raising blood sugar levels and making it more difficult to manage the condition. Yoga is an effective way to reduce stress and promote relaxation. Medicines for Type 2 Diabetes- There are many medicines for diabetes control. The drugs for diabetes should not only reduce blood glucose and achieve target A1C, but also protects heart, Kidney, nerves and liver. Both tablets and insulin should be used discretely to achieve the goal with minimal side effects.

Regular check -up, self -monitoring, target organ assessment like kidney, eye, nerves, heart and foot are essential part of holistic approach to Type 2 diabetes.

It is important to remember that a holistic approach to type 2 diabetes requires a personalized plan tailored to your individual needs and preferences.



National Scientific Conclave on Interdisciplinary

Global Burden of Cancer

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Abstract

Cancer poses a major public health and economic challenge globally, accounting for 16.8% of deaths worldwide and 30.3% of premature non-communicable disease (NCD) deaths in people aged 30–69 years. In 2022, an estimated 20 million new cancer cases and 9.7 million deaths occurred worldwide, with Asia bearing nearly half of the global cancer incidence and over 56% of cancer deaths. The disparity in cancer mortality between high- and low-income countries highlights inequities in healthcare access and early detection. Lung, breast, and colorectal cancers are the leading global contributors to cancer incidence and mortality, with lung cancer being the most fatal. In India, 1.4 million new cases and 446,772 cancer deaths were reported in 2022, representing 7.1% of global cancer cases and 10.4% of deaths. The cancer burden in India differs significantly by gender and region, with lung, mouth, and prostate cancers leading among males, while breast and cervical cancers dominate among females. Future projections indicate a sharp rise in cancer cases, with low and medium Human Development Index (HDI) regions, including India, facing the steepest relative increases by 2050. Addressing this rising burden requires targeted cancer control measures, focusing on prevention, early detection, and management. Investing in interventions to address key risk factors, such as tobacco use, poor diets, physical inactivity, and infections, could substantially reduce future cancer burden, especially in low-resource settings. Enhanced global efforts are essential to mitigate disparities and improve outcomes for affected populations worldwide.



National Scientific Conclave on Interdisciplinary

Advances in imaging technology in cancer diagnosis

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Abstract

Molecular imaging is an exciting branch of medical imaging that provides detailed in-vivo images at the molecular and cellular levels. In the past 2 decades, the molecular imaging has gone through phenomenal advances and is now applied across several fields, from basic and translational science through state-of-the-art patient diagnosis and therapy. Fundamentally, molecular imaging allows for the visualization of biochemical processes and patterns of target localization that are invisible at the anatomic imaging level.

Molecular imaging requires administration of an imaging agent, usually intravenously, which interacts with a targeted environment to uncover biological pathways. Because a hallmark of molecular imaging is lack of perturbation of the cell, environment, or process under study, the imaging agents often serve as tracers, with no effect on the organ which is targeted. Molecular imaging comprises of mainly TWO components- One is Tracers that can be molecules or analogs of molecules that participate in metabolic pathways or they can be targeted to serve as substrates for or bind to specific enzymes, receptors, antigens, or transporters. In many scenarios, the tracer will be radio-labeled, ie, with a radionuclide, The SECOND component is appropriate hardware-a DETECTOR that can detect the tracer and translate that detected signals into spatial information. These scanners have high sensitivity and high spatial, contrast, and temporal resolution and the advent of PET scanners (Positron Emission Tomography) has revolutionized the imaging of entire body in a very short time.

In today's discourse, we shall try to understand about these new molecular imaging innovations which have impacted oncological practice immensely. Specifically, we try to understand nuclear medicine techniques, including single-photon emission computed tomography (SPECT) and positron emission tomography (PET). These techniques have given birth to a new approach in cancer treatment namely-THERANOSTICS- which will play a major role in the next decade as new targets for different types of cancers emerge. The practice of oncology will move from non-specific therapies to highly targeted therapies and future is very exciting.



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Role of nutrition in the prevention and management of cancer

Dr. Ayesha Ismail

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Abstract

Cancer remains the leading cause of mortality globally. Nutrition is a key environmental factor which plays a role in health and disease. Metabolic rewiring essential for enhanced nutrient uptake and energy production is fundamental for tumor initiation, proliferation and metastasis. Dietary regimens such as calorie restriction, intermittent fasting and ketogenic diets have demonstrated promising anticancer effects in preclinical models. Dietary restriction of specific essential or non-essential amino acids has been reported to be beneficial in certain preclinical cancer models and in humans. Few clinical trials are being done to assess the effect of different diet regimens and dietary restriction of specific amino acids and the outcomes are awaited. Studies conducted from our laboratory using dietary ingredients have demonstrated either the anticancer or cancer-preventive effects in in vitro and in vivo preclinical models. We showed that *M.koenigii* [curry leaf] leaf extract [MLE] which is a rich source of polyphenolic compounds and alkaloids decreases the viability and proliferation of breast cancer cells. Further, we demonstrated that the MLE inhibits a molecular target - the 26S proteasome essential for growth of cancer cells. Oral administration of MLE to mice significantly decreased the size of tumor xenografts and led to apoptotic cell death. Cinnamon bark and its bioactive compounds were found to possess proteasome-inhibitory and anticancer effects in human prostate cancer cell lines. Interestingly, we recently reported the chemo preventive potential of cinnamon and its bioactive components in a rat model of premalignant prostate carcinogenesis. Although diet/nutrition appears to play a vital role in the prevention and management of cancer, more research is the need of the hour to come up with nutrition recommendations.



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ABSTRACTS OF ORAL PRESENTATIONS FACULTY



Increasing protein intake by 25 grams at breakfast has been associated with a 2% reduction in hba1c levels among individuals with prediabetes

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Abstract

Background: Increasing protein intake during breakfast can have a significant impact on improving blood sugar control, particularly in individuals with prediabetes. One study demonstrated that adding 25 grams of protein to the morning meal led to a notable 2% reduction in HbA1c levels, a key marker used to assess long-term blood glucose management.

This finding underscores the importance of meal composition in addressing metabolic health challenges. Breakfast, often regarded as the most important meal of the day, sets the tone for glucose regulation throughout the day. High-protein meals have been shown to promote satiety, reduce post-meal glucose spikes, and improve insulin sensitivity. For individuals with prediabetes, these benefits can play a crucial role in preventing the progression to type 2 diabetes.

Including 25 grams of protein in breakfast can be achieved through simple dietary adjustments. Foods such as eggs, Greek yogurt, paneer, tofu, or plant-based protein smoothies are excellent options. Combining these with fiber-rich whole grains, vegetables, or fruits can further enhance the meal's glycemic benefits.

It is also worth noting that this approach is not only practical but sustainable for long-term lifestyle changes. Encouraging individuals to prioritize protein in their breakfast routine can serve as an easy and effective dietary strategy to support metabolic health.

While these findings are promising, further research is warranted to explore the broader implications of high-protein breakfasts across diverse populations. Nevertheless, this study highlights a simple yet impactful intervention that healthcare providers can recommend to individuals at risk of diabetes. By focusing on breakfast quality, we can empower people to take actionable steps toward better health and improved glycemic control

Methods: A total 150 participant (Aged 30-55 years) with hba1c levels in the prediabetic range around 5.7% -6.4% were enrolled

Results: The primary outcome was the change in hba1c levels. secondary outcome included PPBS levels and dietary adherence

Key words: Prediabetes, Hba1c, protein intake, Glycemic control, Metabolic heal



Cytotoxic and Apoptotic Activities Against Human Colon Cancer of The Methanolic Extracts obtained From The Undigested Food (Dung) Samples of *Elephas Maximus Indicus* (Indian Elephants)

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Abstract

Colon cancer is one of the most prevalent cancers in the world and is currently the fourth most common cause of cancer-related deaths in human beings. The most living legendary terrestrial animals are the *Elephas maximus indicus* (Indian Elephants) belonging to the family Elephantidae within the order Proboscidea. Since the elephant is an important megaherbivore and sacred animal within the forest, it is also considered an intelligent animal. As well the aesthetic value, the *E. m. indicus* animal is known to have several medicinal properties due to its components of a wide range of therapeutic properties present in their products such as ivory, urine, and faeces (dung). The present study aimed to determine the methanolic extracts obtained from the undigested food (dung) samples of the *E. m. indicus* for the evaluation of cytotoxic, and apoptotic activities with the qualitative estimation of phytochemicals, and GC-MS analysis. The presence of six phytochemicals such as carbohydrates, terpenoids, saponins, oils, glycoproteins, and phenols indicate the clear existence of secondary metabolites in the methanolic extracts obtained from the undigested food (dung) samples of the Indian Elephants. From the GC-MS analysis, the total peaks revealed 26 main peak areas with various percentages of identified (known) compounds. The methanolic extracts produced from the dung samples of the *E. m. indicus* showed a cytotoxic effect against the human colon cancer – HCT-116 cell lines. The highest inhibition activity (IC 50 value) was recorded at the concentration of 320 µg/mL of concentration with 82% inhibition of HCT-116 cells. Similarly, the methanolic extracts produced from the undigested food samples of the *E. m. indicus* treated at 80 µg/ml and 160 µg/ml have induced early and late apoptosis in the treatment of colon cancer (HCT-116) cells with 1.72% and 5.09% of early apoptosis; 9.63% and 17.37% of late apoptosis respectively. The results obtained from the above-mentioned studies related to cytotoxic, and apoptotic activities of the dung samples of the Indian Elephants indicate that these undigested food (dung) samples are a “rich and promising organic source” that can be used as drugs in the medicinal, and pharmacological industries.

Keywords: Apoptosis, Cytotoxic effect, HCT-116 cell lines, Phytochemicals, GC-MS analysis.



Microbial Attributes of Resistant Starch Based Health Mix developed for women with Polycystic Ovarian Syndrome

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Abstract

Background: Resistant Starch is a type of carbohydrate that ferments in the large intestine bypassing the digestion in small intestine. This makes it act as a prebiotic and helps in improving the composition of the gut microbiome, improving insulin sensitivity through dietary intervention thereby balancing the gut microflora is a novel alternative approach in the treatment of Polycystic Ovarian Syndrome (PCOS). Hence, Resistant starch can be considered as an alternative in the treatment of dysbiosis in PCOS.

Aim: The aim of this study is to analyse the microbial properties of a resistant starch based health mix developed for women with PCOS.

Objective: To develop and analyse the microbial properties of a resistant starch based health mix along with its nutritional and sensory properties.

Materials And Methods: The supplement was developed as three trials (T1, T2, T3) under hygienic conditions and organoleptic evaluation was performed using nine –point hedonic scale. Nutrient and microbial properties of the supplement (T2) were analysed after the organoleptic evaluation.

Results And Discussion: The developed supplement was found to be nutrient dense and contained resistant starch of about forty-five percent of the total daily recommendation. Microbial analysis revealed that the supplement observed the presence of yeast and mould count (>10,000 CFU/g), total aerobic bacteria count (>1,00,000 CFU/g) and presence of E-Coli species (>10/g) after a one-month period.

Conclusion: The study denotes that the developed supplement can be helpful in the treatment of PCOS as it has significant amount of resistant starch beneficial for the gut health and can be stored for a one-month period at room temperature.

Keywords: PCOS, Resistant Starch, Total Aerobic Bacterial Count, E. Coli, Yeast and Mould Count

Setaria Italica supplementation on the serum glucose levels of type 2 diabetic subjects

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Abstract

Background: Diabetes mellitus or type-2 diabetes is one of the major non-communicable and fastest growing public health problems in the world. At present, India is recognized as capital of diabetes due to high prevalence of diabetes in younger generation. Millets are amazing in the nutrient content and three to five times superior to rice and wheat. Dietary management with high fiber and complex carbohydrates, millets found beneficial in monitoring diabetes and to prevent further complication.

Aim: To study the effect of Setaria Italica (Foxtail millet) supplementation on the blood glucose levels in type 2 diabetic patients.

Methodology: The study design was prospective experimental study with control group. The study was carried out on 24 subjects of both genders, based on their HbA1c ($>7\%$). They were divided into 12 experimental and 12 control group. These subjects were supplemented with khakra for 30 days which was formulated with 50g of wheat and 50g foxtail millet flour. At the end of the study, the subject's pre-FBS and PPBS were compared with the post FBS and PPBS.

Result: In experimental group there was significant difference in their FBS from 146.58 ± 12.28 to 108.83 ± 9.59 ($p < 0.01$) and PPBS from 188.67 ± 11.96 to 146.42 ± 15.53 ($p < 0.01$) whereas in control group FBS have increased from 143.42 ± 18.45 to 195.75 ± 24.72 ($p > 0.05$) and PPBS from 195.75 ± 24.72 to 201.08 ± 22.08 ($p > 0.05$) which had no statistical significance.

Conclusion: An intake of millet khakra based diet for period of 30days, improved their glycaemic control and lowered the blood glucose levels in experimental group.

Keywords: Type 2 diabetics, glycaemic index, foxtail millet diet.



Flaxseed Oil, Casitose, and Its Combination Diets Increase Antioxidant Activity and Upregulates Aging-related Genes in *Drosophila melanogaster*

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Abstract

Nutrigenomics refers to the effect of diet on the genomic expression of an organism. Diet is a significant factor influencing metabolism, aging, and life span. Long-term diet impacts aging-related diseases, including diabetes, cardiovascular diseases, hypertension, and cancer. Understanding molecular and cellular mechanisms associated with aging is a pragmatic need in clinical and research studies. *Drosophila melanogaster*, an in-vivo model organism with 60% homology to humans, is widely used for studies in aging. Research on nutrition in *Drosophila* has focused on calorie restriction, high-sugar and high-fat diets, micronutrients, and disease-specific nutrition interventions. However, research on the effects of different combinations of macronutrients is not adequately studied. This study aimed to analyse the impact of individual macronutrients and their combinations, specifically flaxseed oil (fat) and casitose (hydrolyzed milk protein), to comprehend the anti-aging properties of these nutrients and a new approach to modelling the fly system for nutrigenomic research studies.

Keywords: Aging, casitose, *Drosophila melanogaster*, flaxseed oil, macronutrients, nutrigenomics



National Scientific Conclave on Interdisciplinary

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Correlation between red blood cell distribution width-to- albumin ratio and diabetic retinopathy

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Abstract

Background: Diabetes mellitus (DM) has shown a trend of reaching pandemic levels in the world. Diabetic retinopathy (DR) is a microvascular complication of DM and is a primary cause of acquired blindness among working-age individuals. Chronic inflammation may contribute to the development of microangiopathy and macroangiopathy in patients with diabetes.

Methods: A cross-sectional study was conducted among 384 Type 2 DM patients. Patients with coronary Heart disease, Hypertension & chronic Kidney disease, Chronic liver disease, Systemic infectious diseases, Hematologic diseases, Media opacity obscuring the visualization of fundus. (mature cataract, corneal opacity, corneal ulcer), Uveitis patients & Malnutrition are excluded from the study. After Comprehensive ophthalmic Examination, based on fundus, patients were classified as DR and no DR. Using the $\text{RDW (\%)} / \text{Albumin (g/dl)} = \text{(RAR)}$ will be determined.

Results: Participants included 36% females and 64% males with mean age 62.17 ± 7.6 years, and mean RAR 3.4 ± 0.6 . $\text{RAR} \geq 3.4$ was a risk factor for DR ($p < 0.001$).

Conclusion: In this study BMI, CRP and RAR are found to be statistically significant. They are simple and practical parameters that may be useful for risk stratifications in patients with Diabetes Mellitus.

Key words: Diabetes mellitus, Red cell Distribution width, Albumin.



Personalized Nutrition Using 3D Food Printing Technology for Esophageal Cancer Patients: Insights from a Study in Kochi

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Abstract

Background: Esophageal cancer patients often experience severe nutritional challenges due to dysphagia, anorexia, and treatment-related side effects. This study investigates the use of 3D food printing technology to create soft, easy-to-swallow meals tailored to individual dietary needs and preferences. The intervention aims to enhance dietary intake by improving the palatability and nutritional adequacy of meals customized to each patient's tastes and swallowing abilities.

Methods: A randomized controlled trial was conducted with 120 esophageal cancer patients undergoing chemotherapy or radiation therapy. Participants were divided into an intervention group (n=60), receiving 3D-printed personalized meals, and a control group (n=60), receiving standard nutrition care. Nutritional status was evaluated using weight stability, serum albumin levels, and dietary intake records. Quality of life was assessed using the EORTC QLQ-C30 questionnaire at baseline, mid-treatment (6 weeks), and post-treatment (12 weeks).

Results: Patients in the intervention group demonstrated significant improvements in nutritional markers, including a 15% increase in average protein intake (95% CI: 10%-20%) and stable weight (-0.5 kg vs. -3.0 kg in the control group, p<0.01). Serum albumin levels increased by 12% (95% CI: 7%-17%, p<0.05). Quality of life scores improved by 10 points on the EORTC QLQ-C30 scale (p<0.05), with notable gains in appetite and swallowing ease. Treatment adherence was higher in the intervention group (92% vs. 78%), with fewer treatment interruptions (10% vs. 25%, p<0.05).

Conclusions: The use of 3D-printed personalized meals significantly enhances nutritional intake, stabilizes weight, and improves quality of life in esophageal cancer patients. This innovative intervention supports better treatment adherence and overall well-being, with further large-scale studies warranted to validate these findings and assess long-term benefits.

Keywords: Esophageal Cancer, 3D Food Printing, Personalized Nutrition, Dysphagia, Nutritional Adequacy, Quality of Life, Treatment Adherence

Gut Microbiota in Hirschsprung's Disease versus Functional Constipation: A Comparative Pilot Study

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Abstract

Background: Children with Hirschsprung's disease (HD), a congenital disorder affecting the colon, causes constipation and are treated surgically. These cases need to be differentiated from children with functional constipation (FC) which are treated conservatively. This pilot study aims to differentiate HD from FC by correlating histopathology with their respective gut luminal microbiota to identify biomarkers which could lead to the identification of potential Next Generation Probiotics for their efficient management.

Methods: Rectal mucosal biopsies from children with constipation received and processed for routine histopathology, acetylcholinesterase histochemistry and/or Calretinin immunohistochemistry, were classified into two groups-HD or FC. Concurrently, fresh faecal samples were collected from each along with age-matched and sex-matched controls. Those on probiotics/ antibiotics for at least one month before faeces collection were excluded. After DNA extraction, using Illumina-MiSeq high-throughput sequencing, V3-V4 region of bacterial 16 S rRNA was sequenced and Operational taxonomic units (OTUs) were defined by 97% sequence similarity.

Results: Of the 40 biopsies included in the study during the last two months, 18 were HD and 22, FC. Three from each group were randomly selected for 16S rRNA Amplicon Sequencing. (HD =3, FC=3). Marker gene-based taxonomic analysis confirmed variation in the microbial composition among the two groups. Principle Coordinate Analysis (PCoA) presented the distinct microbial architecture in the two types of constipation. The most abundant taxonomy identified showed major differences in Family, Genus and Species level as Prevotellaceae, Prevotella and copri in HD while Bacteroidaceae, Bacteroides and fragilis in FC respectively.

Conclusion: This pilot study highlights gut microbial dysbiosis in both Hirschsprung's disease and functional constipation and each has a unique microbial signature. This may be considered as a biomarker to differentiate the two entities in prospective candidates, and Next Generation Probiotics may be tailor-made to manage the two categories of constipation.

Key words: Gut microbiota, Hirschsprung's disease, Childhood Functional Constipation, 16S rRNA Amplicon, Next Generation Probiotic.



Prevalence of Communication Disorders in Selected Villages of Kolar District, Karnataka: A Preliminary Study.

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Abstract

Background: Communication disorders can significantly impact individual's social, emotional, cognitive, and academic development, with long-term effects that extend into adulthood, influencing career choices as well. Understanding the prevalence of a disorder is crucial for identifying the need for health services, assessing disorder trends, and comparing disorder rates across different populations. This study was conducted by the Department of Speech Pathology and Audiology at SDUAHER, and aims to estimate the prevalence of communication disorders in Kolar district of Karnataka, India.

Methods: A door-to-door survey was carried out across 14 villages in Kolar, covering a population of 7,420 to identify individuals at risk for communication disorders. Validated questionnaires were used to screen for these disorders, and the prevalence was then estimated within the population.

Results: The percentage of individuals who were at-risk of communication disorders as estimated from the survey data was found to be 2.62% (195 out of 7420). Among these 195 identified individuals, 72.82% of individuals were found to have ear and hearing related problems and 27.18% individuals had speech–language and swallowing disorders. Also, males had higher prevalence of ear and hearing related (52.11 % against 47.89%) and speech language related problems (56.6% against 43.4%).

Conclusion: The survey findings revealed that 2.62% of the surveyed population was at risk of communication disorders, encompassing both ear and hearing-related problems as well as speech–language and swallowing disorders. Notably, males exhibited a higher prevalence in both categories, with 52.11% of ear and hearing-related problems and 56.6% of speech–language-related issues compared to females. These findings highlight the need for targeted interventions and awareness programs focusing on ear and hearing care as well as speech–language services, particularly for the male population, in the surveyed region.

Keywords: Door-to-door survey, communication disorders, ear, hearing, speech–language and swallowing disorders.

Retrospective analysis of major and minor risk factors associated with referral rates in Newborn hearing screening

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Abstract

Introduction: Newborn screening (NBS) programs play a crucial role in early detection and intervention for various congenital disorders. Risk factors, such as maternal history, family history, and abnormal physical examination findings, can influence the likelihood of a positive screening result and subsequent referral for further investigation. This retrospective analysis aims to explore the association between major and minor risk factors and the referral rates in newborn hearing screening (NBHS).

Method: The study retrospectively analysed data from 2355 infants screened for major and minor risk factors. The major risk factors included family history of deafness, consanguinity, elderly pregnancy, Rh incompatibility, viral/ bacterial infections (maternal), ototoxic medications, low birth weight, neonatal jaundice, delayed birth cry, premature delivery, birth asphyxia, and craniofacial anomalies. The minor risk factors included type of delivery, excessive vomiting, low/ high blood pressure, blood sugar and history of abortions. The data included the babies screened between February 2024 and January 2025 at R L Jalappa Hospital and Research Centre, Kolar. Descriptive statistics were performed using crosstabs, and chi-square analysis was conducted to examine the association between risk factors and referral rates.

Results: The referral rate was calculated for each major and minor risk factor. Among the major risk factors, premature delivery (RR = 22.65%), low birth weight (RR = 16.67%), and NICU stay >5 days (RR = 14.5%) exhibited higher referral rates. Chi-square analysis revealed a significant association between these risk factors and referral outcomes ($p < 0.05$). Similarly, among the minor risk factors, high/low blood pressure showed the highest referral rate (RR = 29.21%), with a significant association ($p < 0.05$).

Conclusion: The results highlight the importance of incorporating risk factor-based stratification in NBHS programs to ensure timely identification and intervention for newborns at greater risk of hearing impairment.

Keywords: Newborn screening, Newborn Hearing screening, Risk factors, Referral rates



***miR-21* exacerbates foam cell formation and regulates early atherogenesis in periodontitis-induced atherosclerosis**

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Abstract

Background: Periodontitis-induced atherosclerosis involves complex molecular mechanisms driven by immune-inflammatory pathways and dysregulation of lipid metabolism. miR-21 is a major regulator of inflammation and is implicated in early atherogenesis processes like foam cell formation. This study aimed to investigate the mechanistic role of miR-21 in periodontitis-induced atherosclerosis by assessing foam cell formation and endothelial dysfunction.

Methods: RAW264.7 cells transfected with miR-21 mimics were exposed to 1 µg/ml LPS of *P. gingivalis* (LPS-PG) and RNA-sequencing was performed using Illumina Novoseq 6000 platform to identify known and novel genes regulated by the miRNA with pathway enrichment performed using KEGG database. Foam cell development in LPS-PG and ox-LDL treated cells with or without miR-21 transfection was evaluated by Oil Red O staining. Resveratrol's ability to inhibit foam cell formation was evaluated across varying concentrations. Specific key genes involved in the early atherogenesis processes were quantified by real-time PCR.

Results: RNA-sequencing revealed more than 4600 differentially expressed genes with 821 shared genes, and 240 genes were downregulated after transfection with miR-21 mimics, suggesting suppression by miR-21. 9 genes (COL1A1, COL1A2, COL2A1, TLR4, FMOD, BTK, ITGAL, VCAM1 and PECAM1) involved in early atherogenesis pathways were quantified. Immune-inflammatory genes BTK and ITGAL were downregulated post-transfection and in ox-LDL conditions, while plaque calcification and endothelial dysfunction genes were upregulated in ox-LDL and miR-21 transfected cells. Moreover, miR-21 enhanced foam cell formation even with Resveratrol, a known foam cell inhibitor.

Conclusion: These findings highlight miR-21 as a critical modulator of early atherogenesis in periodontitis-induced atherosclerosis and emphasize its potential as a therapeutic target.

Key words: Atherosclerosis, Periodontitis, miR-21, Foam cell, Endothelial dysfunction, Inflammation.



Engineered Small Extracellular Vesicles as A Therapeutic Carrier Targeting Triple-Negative Breast Cancer

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Abstract

Background: Breast Cancer is the leading cause of female cancer mortality worldwide. Triple-negative breast cancer (TNBC) represents 10–20% of breast cancer cases. Despite advancements in cancer treatment, TNBC patients often have poor prognosis and limited targeted therapeutic options, majorly because of the lack of estrogen, progesterone and HER2 receptors. Strategies to deliver small RNA molecules such as miRNAs are a potential therapeutic option. However, a robust gene delivery system is generally recognized as a bottleneck in translating the technology. The approach of utilizing surface-engineered small Extracellular Vesicles (sEVs) to deliver therapeutic miRNAs to the tumor site will provide a proof of concept for the functional sEVs to act as natural nanovesicles.

Methods: sEVs were isolated from MDA-MB-231 cells and were characterized by western blotting, DLS, and TEM analysis. The isolated sEVs were then conjugated to GE11 peptide by EDC/Sulfo NHS reaction. Further, the uptake efficiency of sEVs-GE11 was determined in non-TNBC and TNBC cell lines by FACS analysis, and the therapeutic carrier ability of sEVs was also determined. The pathway of sEVs-GE11 was analysed by treating the cells with various pathway inhibitors and incubating them with sEVs-GE11.

Results: HEK293-derived sEVs are non-toxic and uptaken by TNBC cells. The conjugation of the GE11 peptide enhances the specificity and selectivity of sEVs towards TNBC and makes them capable of delivering therapeutic miRNAs. sEVs-GE11 is internalized by clathrin-mediated endocytosis in TNBC cells.

Conclusions: The isolated sEVs exhibit non-toxic properties and are readily taken up by TNBC cells. The addition of the GE11 peptide significantly enhances the specificity of sEVs binding to TNBC cells, with clathrin-mediated endocytosis being the predominant internalisation pathway. Furthermore, miR-204, which is significantly downregulated in TNBC tissue samples, can be efficiently delivered to TNBC cells using the sEVs-GE11 complex. This highlights the potential of the sEVs-GE11 complex as a promising therapeutic carrier for the targeted delivery of miR-204 to TNBC cells.

Keywords: Triple-negative breast cancer, small Extracellular Vesicles, GE11 peptide, miRNA



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OP_F_13

Gut Dysbiosis in Indian Type 2 Diabetes Patients: A Pilot Study

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Abstract

Background: India with its distinct genetic, dietary, developmental and socioeconomic factors that contribute to diabetes, has the second-highest number of diabetics worldwide, after China. (Data from International Diabetes Federation). Reducing its impact is primary importance. Gut dysbiosis is said to play an important role in the exacerbation of T2DM. This becomes a binding reason for initiating this research study in the Indian context. By profiling gut microbiome in T2DM in an Indian cohort, this pilot study may lead to the validation of gut microbiome dysbiosis and help in better management of T2DM patients.

Methods: Based on a set of inclusion criteria, fresh feces samples collected from overt T2DM subjects (n=3) and healthy controls (n=3) were transported in cold chain. Microbial DNA extraction was followed by 16S rRNA amplicon sequencing using Illumina MiSeq platform to characterize gut microbiome. V3 and V4 regions were sequenced and analyzed for taxonomic levels identification using appropriate Bioinformatics tools.

Results: The Principal Coordinates plot based on unweighted Unifrac distances shows variations among the samples. Most abundant taxonomy identified in comparison at different taxonomic levels showed significant differences in T2DM subjects compared to healthy controls from phylum to species level. In T2DM, Phylum Firmicutes, Class Clostridia, Order Clostridiales, Family Ruminococcaceae, Genus Prevotella and Unclassified species from genus Klebsiella emerged as the most abundant while in healthy control Phylum Bacteroidetes, Class Bacteroidia, Order Bacteroidales, Family Bacteroidaceae, Genus Bacteroides and unclassified species from genus Bacteroides were found to be the most abundant taxa.

Conclusion: This pilot study proves gut dysbiosis in Indian T2DM patients and its rectification reversal may improve the glycemic parameters and thus, better patient management.

Key words: Type 2 Diabetes Mellitus, 16S rRNA Amplicon, Illumina MiSeq, Gut dysbiosis



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OP_F_14

Role of Choline Transporter Immunostain in the Diagnosis of Hirschsprung Disease on Formalin Fixed Rectal Mucosal Biopsies

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Abstract

Background: Acetylcholinesterase enzyme histochemistry (AChE) (positive marker) / Calretinin IHC (negative marker) on fresh & formalin fixed rectal mucosal biopsies (FFRMB) has been the gold standard for diagnosis of Hirschsprung disease (HD). Choline Transporter (Ch Tr) immunostaining is aimed in this study on FFRMBs with the quest for a positive immune marker for diagnosis of HD.

Methods: FFRMBs from neonates & children with chronic constipation, received over a period of two months (Nov – Dec 2023) at Translation Research Laboratory for Gut Motility Disorders (referral centre), were studied with Ch Tr (Proteintech, CA,1:200 dilution) immunostain after standardisation & validation, along with the Calretinin immunostain (RTU from PathnSitu) (gold standard). The results were correlated with clinical data and or follow-up biopsies / resections. Calretinin staining shows intrinsic fibres in the muscularis mucosa, stains ganglion cells, and absence of fibres indicate HD (negative marker). We hypothesize that Ch Tr immunostain will show fibres in HD (hence, a positive marker) in muscularis mucosa & none in ganglionated FFRMBs.

Results: Of the 67 cases studied with calretinin (gold standard), 44 were HD and 23, non-HD. They correlated 100% with follow-up biopsies in cases of HD & follow-up data in non-HD cases. With Ch Tr, 34 cases (50.74%) were HD (true positive); 19 cases (28.35 %) were non-HD (true negative); 3 cases (4.47 %) were false positive and 10 cases (14.92 %) were false negative. 40% of biopsies needed repeat Ch Tr staining inspite of prior validation.

Conclusion: Choline Transporter immunostaining on formalin fixed rectal mucosal biopsies for diagnosis of Hirschsprung's disease is statistically inferior to the gold standard Calretinin immunostaining, inspite of it being a positive marker. Therefore, Choline Transporter immunostain cannot be used as a stand-alone marker in the diagnosis of Hirschsprung's disease.

Key words: Hirschsprung's disease, Calretinin, Choline Transporter, Immunohistochemistry.



Effect of *Jalaneti* (saline nasal irrigation) as an Adjunctive Therapy in Allergic Rhinitis - A Pilot Study

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Abstract

Background: Allergic Rhinitis (AR) is an inflammation of the nasal membranes, resulting in symptoms such as nasal congestion, sneezing, itching, and post-nasal discharge. This common condition afflicts around 400 million people globally and is increasingly prevalent due to factors like urbanization. AR often coexists with asthma leading to reduced quality of life, impaired performance in school or work, and significant financial impact. Studies show that patients with persistent AR experience heightened oxidative and psychological stress. Currently, there are no widely accepted treatments for this condition.

Neti kriya is an essential part of *Shatkarmas*, which are crucial to *hatha yoga*. *Jalaneti* is a nasal lavage technique using lukewarm isotonic saline to effectively clean the nasal passages. Recent studies indicate that *Jalaneti* and saline nasal irrigation may effectively treat and prevent allergies linked to upper respiratory conditions. Repurposing ancient practices with scientific evidence is a key area of the field of Integrative medicine.

Methods: Twelve patients with allergic rhinitis (AR) attending the pulmonology department OPD were recruited. Participants received practice *Jalaneti* for 15 minutes, twice a week, over 4 weeks, under the supervision of a trained yoga therapist along with standard care. Participants were assessed using the Sino-Nasal Outcome Test-22 (SNOT-22), Perceived Stress Scale (PSS), and Peak Expiratory Flow Rate (PEFR) before and after the intervention. The study has been approved by the IEC of the academy.

Results: The four weeks of intervention led to significant improvements: SNOT-22 Total, Physical, and Psychological symptom scores decreased by 56.73%, 70.23%, and 44.64%, respectively, while perceived stress (PSS) reduced by 29.53%. PEFR increased by 13.58%, indicating enhanced respiratory function.

Conclusion: *Jalaneti* can be considered a valuable complementary therapy in AR prevention and management for reducing symptoms. It may help in reducing psychological trigger factors.

Keywords : *Jalaneti*, Saline nasal irrigation, Allergic rhinitis, Stress, Yoga



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OP_S3_01

Intraperitoneal Administration of Vitamin D Mitigated the Cognitive Impairment Induced Due to Diabetes by Modulating PI3K/Akt Signaling in C57BL6 Mice.

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Abstract

Background: Studies from our laboratory have found that vitamin D content is much lower in diabetics with cognitive impairment compared to healthy individuals. We have also demonstrated that zebrafish growing in a medium containing vitamin D exhibited a minimal loss in cognition, which is otherwise experienced due to hyperglycemia. To provide the mechanistic basis for these clinical and preclinical observations, we have further evaluated the ability of vitamin D to mitigate cognition impairment induced by a combination of a high-fat diet and streptozotocin administration. Furthermore, we have measured the markers of cognition impairment in brain tissues and blood, and checked whether vitamin D administration has any impact on PI3K-Akt signaling. Since PI3K-Akt signaling is known to protect cells from various insults, we are hypothesizing that vitamin D might be inducing the expression/activity of Akt thereby reduce the complications triggered due to diabetes. **Methods:** Diabetes was induced in male C57BL/6 mice through a combination of a high-fat diet and low-dose streptozotocin to mimic Type 2 diabetes in humans. After the onset of diabetes was confirmed, the mice were treated with vitamin D (25 µg/kg and 250 µg/kg body weight), and glyburide, a standard anti-diabetic drug (5 mg/kg body weight), which served as a positive control. Before the completion of the study, cognitive function was assessed using the Novel Object Recognition Test (NORT) and the Morris Water Maze (MWM). Mice were euthanized and vital organs were collected for measuring the changes in the expression and activity of PI3K-Akt pathway proteins and the proteins regulating the cellular oxidative stress. **Results:** The results demonstrated that vitamin D supplementation showed a neuroprotective effect by improving cognitive performance in diabetic mice. In addition to enhancing cognitive function, vitamin D appeared to affect oxidative stress pathways, as evidenced by elevated expression of enzymes (GPX, SOD, and NQO1) and biomolecules (GSH) that control oxidative stress. **Conclusion:** These findings suggest that vitamin D may play a critical role in modulating oxidative stress and cell survival, which could contribute to the observed neuroprotective effects and potentially counteract cognitive decline associated with diabetes.

Keywords: Vitamin D, Oxidative stress, Type 2 Diabetes mellitus, Cognitive impairment



National Scientific Conclave on Interdisciplinary

OP_S3_02

Co-Targeting Key Oncogenic Signalling Cascades Regulating Breast Cancer Development Using Vitamin-D And Anti-Hyperglycemic Agent Phenformin

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Abstract

Background: Repurposing of anti-hyperglycemic agents metformin and its derivatives buformin and phenformin for the treatment of cancers is gaining momentum in recent years due to the realization that these biguanides activate AMP-activated protein kinase (AMPK) while inhibiting the activity of mitochondrial complex-I (NQO1) in cancer cells. But, these formins could not be used as monotherapies due to their minimal success as monotherapeutics or due to the adverse events such as accumulation of lactic acid. Hence, recent studies have begun testing these formins in combination with other agents. One such agent is vitamin D. Studies from our laboratory and many others have provided strong evidences for the anti-cancer effects of vitamin D. Therefore, in this study, we have investigated the effect of combining vitamin D with metformin and phenformin in the breast cancer cell lines as well as in the EAC-bearing mice model. **Methods:** Cytotoxic potential against breast cancer cell lines was determined using sulforhodamine-B assay. Performing wound healing assay and acridine orange and ethidium bromide staining, respectively, assessed the effect on cell migration and cell death induction. Western blotting was used to detect changes in the expression of proliferation and apoptosis markers. Further, we have tested the effect of administering these compounds, alone and in combination, on the growth of EAC solid tumors. **Results:** Phenformin inhibited the viability of breast cancer cells with an IC₅₀ value ranging from 1.1 to 1.5mM at 24h, however, at these concentrations, either Buformin or Metformin showed no significant effect on cell viability, which could be probably due to variations in the uptake of these compounds by cultured cells. Phenformin induced apoptosis, inhibited the migration of cells and arrested the cells in G2/M phase of cell cycle. Intra peritoneal administration of phenformin and vitamin-D retarded EAC solid tumors growth in normal and hyperglycemic mice. **Conclusions:** In conclusion, results of this study help to develop a synergistically acting combination regimen by repurposing phenformin and vitamin-D to retard breast tumors growth.

Inverse Association of Lactobacillus and Bifidobacterium Species with Inflammatory Microenvironment in Cervical Cancer

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Abstract

Background: Cervical Cancer (CC) is caused by persistent infection with one or more high-risk genotypes of human papillomavirus (HPV). A thorough understanding of the population-specific microbial abundance and their role in inflammation is required for the development of better strategies for treating CC. Therefore, in this study, we have compared the microbial population in the cervicovaginal lavage of HPV-infected CC with the HPV-positive and HPV-negative normal controls.

Materials and Methods: The study was approved by the Institutional Ethics Committees of the participating institutions viz., JSS AHER, PHRII, and MMCRI. Cervico-Vaginal Lavage (CVL) was collected from 93 non-pregnant women attending the tertiary care hospitals in Mysore. Papanicolaou (Pap) test was performed for cytological examination. DNA was extracted and HPV-positive samples were genotyped using the TRUPCR® HR-HPV Genotyping Kit. The diversity of the microbial population was identified using 16srRNA metagenomics (V3-V4 region). Trichomonas vaginalis (TV) and Candida Sp. were detected by PCR. The pro- and anti-inflammatory cytokines were measured by ELISA.

Results: Among 93 participants, 50 (55.5%) exhibited no abnormalities on Pap test, while the remaining 43 (46.23%) had abnormal Pap results or biopsy reports. Analysis of HPV screening data revealed that 20 out of 50 healthy individuals (40%) tested positive for HPV. All the 40 Pap-positive cases were concurrently positive for HPV DNA as confirmed by PCR. A significant decrease in Bifidobacterium Sp. was observed in HPV-positive healthy women (n=30), while Lactobacillus Sp. and Bifidobacterium Sp. were significantly reduced in CC patients (n=43). TV (76.7%) was significantly higher in CC patients. Relative species abundance analysis showed the predominance of Prevotella, Leptotrichia, Porphyromonas and Veillonella in HPV-positive CC cases.



National Scientific Conclave on Interdisciplinary

Additionally, TGF- β was significantly elevated in the CVL of cervical cancer patients compared to the control.

Conclusion: A comparative assessment of cervico vaginal microbiome profile revealed a predominance of TV in CC irrespective of HPV status. Notably, patients with HPV positive CC exhibited distinct cervico-vaginal microbiome characterized by the predominance of Prevotella, Leptotrichia, Porphyromonas and Veillonella.

Key Words: Cervical Cancer, HPV, V3-V4 Microbial profiling, Trichomonas vaginalis, Candida Sp., Inflammation.



Synergistic effects of vitamin D and metformin in alleviating Diabetic nephropathy: A therapeutic approach

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Abstract

Introduction: Diabetic nephropathy (DN) is a leading cause of end-stage renal disease globally, characterized by oxidative stress, inflammation, and fibrosis. This study investigates the therapeutic potential of vitamin D, alone and in combination with metformin, in mitigating DN progression in streptozotocin (STZ)-induced diabetic rats.

Methods: Male Wister rats were induced with diabetes using STZ and divided into six groups, received vitamin D (5000 IU or 8000 IU), metformin (250 mg), or a combination of both or no treatment for 21 weeks. Fasting blood glucose (FBG), lipid profiles, renal function markers, and oxidative stress indicators were measured. Renal tissues were examined through histopathological analysis to assess structural changes, and immunohistochemistry were performed to evaluate the expression of key proteins involved in inflammation, fibrosis, and oxidative stress pathways.

Results: Vitamin D treatment showed a dose-dependent FBG reduction, with the combination therapy yielding the greatest improvement by week 21. Triglyceride levels were significantly reduced in the treated groups, while HDL levels remained stable. Combination therapy also showed a marked reduction in oxidative stress markers (H₂O₂, NO) and enhanced antioxidant enzyme, activity (Glutathione reductase, Superoxide dismutase, Glutathione peroxidase). Histological analyses revealed preserved renal architecture with less glomerular and tubular damage and reduced fibrosis in the treated groups. Immunohistochemical studies showed increased VDR and Nrf2 expression, along with reduced VEGF and TGF- β levels, reflecting mitigation of inflammation, oxidative stress, and fibrosis.

Conclusion: Vitamin D, especially in combination with metformin, effectively mitigates DN progression by improving metabolic parameters, reducing oxidative stress, and preserving renal function. This study underscores the potential synergistic benefits of vitamin D and metformin as a combined therapeutic strategy in managing DN, providing a foundation for future clinical applications.

Key words: Vitamin D, oxidative stress, Antioxidant effects, Diabetic Nephropathy, Metformin



Variations in the Phytochemical composition, Antioxidant and Antiproliferative activities of *Cuminum cyminum* and *Bunium persicum* that were grown in India and Iran

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Abstract

Background: *Cuminum cyminum* (CC) and *Bunium persicum* (BP), known as cumin and bitter cumin, belong to the Apiaceae family and are valued in Unani and Ayurveda, for their antioxidant, anti-inflammatory, antibacterial, and anticancer properties. CC and BP are predominantly produced in Iran and India. Since the environmental conditions and stressors in Iran are significantly different from the Indian subcontinent, it is predicted that the phytochemical composition and anti-proliferative potential of cumins might vary. But, to date, no study has compared the efficacy of these cumins for inhibiting cancer cells growth.

Methods involved sequential extraction of phytochemicals using solvents from non-polar to polar (Hexane, DCM, and 70% Ethanol) by cold maceration. Phytochemical assays were performed to determine the content of phenolics (by F-C method), flavonoids (by Aluminium chloride method), total carbohydrates (by phenol sulfuric acid method), and total protein (by Bradford assay). The identification of phenolic compounds was done by HPLC. Antioxidant potential was assessed via DPPH, FRAP, and ABTS assays, while the SRB assay measured antiproliferative effects on breast and colorectal cancer cell lines.

Results indicated that Indian varieties contained 33% more total carbohydrates and 20% higher levels of flavonoids compared to Iranian varieties. In contrast, the Iranian varieties showed a 0.4% increase in phenolics and a 0.2% increase in protein content. The ethanolic extracts exhibited superior radical scavenging potential. HPLC analysis revealed the presence of phenolic acids including chlorogenic-, gallic-, and protocatechuic acids. Preliminary cytotoxicity evaluation using



National Scientific Conclave on Interdisciplinary

the HCT-15 cells demonstrated that aqueous extracts of the Indian variety were more potent (96% at 1000 μ g/mL) compared to other extracts. The Iranian variety, exhibited better cytotoxic effects (93% at 1000 μ g/mL).

Conclusion: Overall data suggested that the Indian CC and Iranian BP extracts exhibited better cytotoxic potential, which could be due to their phenolic content. Further studies are warranted to understand the exact mechanism of action.

Keywords: Cuminum cyminum, Bunium persicum, Antioxidant activity, Antiproliferative activity, Colorectal cancer.



In silico and in vitro evaluation of reported 15-PGDH activators for the inhibition of cancer cell growth.

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Abstract

Background: Inflammation is identified as a driver of cancer progression, with prostaglandins (PGE2) playing a crucial role in angiogenesis, metastasis and immune evasion. 15-Hydroxyprostaglandin dehydrogenase (15-PGDH) is a key enzyme involved in the degradation of oncogenic PGE2. Preliminary reports from our group have shown the downregulation of 15-PGDH in cervical cancer cell lines and tumor tissues. Additional research has shown that upregulation of 15-PGDH is a promising strategy to induce tumor suppression. Therefore, the current study emphasizes on identifying 15-PGDH activators using in silico and in vitro models.

Methods: Reported pharmacological molecules- aspirin, curcumin, flurbiprofen, and sodium butyrate were docked with 15-PGDH using Schrodinger molecular docking software to determine the binding affinity. The molecules with higher binding affinities were tested against cervical cancer cell lines to evaluate their ability to activate 15-PGDH and inhibit cancer progression. Also, the ability of the most potent molecule to upregulate the expression of 15-PGDH was tested using western blot.

Results: Based on in silico findings, curcumin and flurbiprofen demonstrated strong binding affinities at the active site of 15-PGDH compared to others. Cytotoxicity assays revealed that curcumin inhibited the proliferation of the cervical cancer cell lines C33A, ME180, HeLa, and SiHa more effectively compared to flurbiprofen, aspirin and sodium butyrate with a lower IC50 value of 33.94, 19.43, 98, 233 at 24h respectively. However, western blot analysis showed that curcumin-treated HeLa cells did not exhibit an increase in the expression of 15-PGDH. In contrast, flurbiprofen increased the expression in C33A cells.

Conclusion: In silico and invitro methods indicate that the upregulation of 15-PGDH can effectively decrease cancer cell growth and proliferation by converting oncogenic PGE2 to inactive 15ketoPGDH thereby reducing inflammation and inducing apoptosis in cancer cells. In conclusion, the study's results emphasise that 15-PGDH could serve as a potential therapeutic target to reduce tumour progression.

Keywords: 15-PGDH, cervical cancer, aspirin, curcumin, flurbiprofen, and sodium butyrate.



National Scientific Conclave on Interdisciplinary

OP_S3_07

A Study of Immunohistochemistry Profiling of Matrix Metalloproteinase-9 And Interleukin-9 In Triple Negative Breast Cancer Patients

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Abstract

Background: Triple-Negative Breast Cancer (TNBC) is a highly aggressive subtype that lacks the estrogen receptor (ER), progesterone receptor (PR), and HER2, limiting treatment options to chemotherapy, radiation, and emerging immunotherapies. TNBC is associated with poorer prognosis, higher metastasis rates, and often affects younger women and women of African or Hispanic descent. MMP-9 and IL-8 are two key biomarkers linked to TNBC progression. MMP-9 facilitates tumor invasion and metastasis by degrading the extracellular matrix and promoting angiogenesis. IL-8 drives cancer cell survival, migration, and metastasis through inflammatory pathways and angiogenesis. High levels of MMP-9 and IL-8 are associated with aggressive TNBC phenotypes, poorer survival outcomes, and chemotherapy resistance, making them critical targets for future therapies. **Objectives:** This study aims to investigate the expression levels MMP-9 and IL-8 in female breast cancer tissues using the IHC method and correlate these levels with clinicopathological parameters. Tissue samples from breast cancer patients were subjected to IHC staining to visualize MMP-9 expression. **Methods:** A cross-sectional study was carried out at the NABL-accredited laboratory in the Department of Pathology, JSS Hospital, Mysuru, between January 2020 and May 2024. The study involved 29 paraffin blocks from patients who had undergone mastectomy or core biopsy following a breast carcinoma diagnosis. Hematoxylin and eosin (H&E) staining, as well as immunohistochemistry (IHC) staining, were performed and the findings documented. **Results:** The results demonstrated expression of IL-8 correlates with triple-negative breast carcinoma patients and may also serve as a prognostic biomarker for breast cancer progression. **Conclusion:** High expression of IL-8 shows a more aggressive pattern of breast cancer and can show a high chance of recurrence. Further research is warranted to explore the mechanisms regulating MMP-9 and IL-8 expression and its role in breast cancer pathophysiology.

Keywords: Matrix Metalloproteinase-9, Interleukin-8, Triple-Negative Breast Cancer, Tumor budding, Km Score, Ki 67.



National Scientific Conclave on Interdisciplinary

OP_S3_08

A Phytonutrient-Powered Path to Weight Loss: Mechanisms and Validation

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Abstract

Background: Obesity poses a substantial public health risk and contributes significantly to the burden of non-communicable diseases around the world, including type 2 diabetes, cardiovascular disease, hypertension, and several malignancies. Many plant species have been utilised and cited for potential lipid-lowering and anti-obesity properties in Asian traditional medicine, and two such include capsaicin and orange peel. Zebrafish are becoming a significant model system for the investigation of metabolic disorders associated to obesity. The adipogenic process and lipid metabolism in zebrafish and mammals have been found to be strikingly comparable with genetic homogeneity around 70 %.

Methods: Ingredients were chosen based on literatures to induce obesity in zebrafish model through chicken egg yolk as obesity induction agent in the prepared fish pellets. Capsaicin and Orange Peel extract being chosen as the phytonutrient agents, were incorporated in the prepared fish pellets. The study included three zebrafish groups - Negative control (NC), Obesity Induction (Test A) and Obesity induction+Anti- Obesity (Test B) groups. Induction of obesity lasted for 6 weeks and the anti-obesity treatment was for 2 weeks. The increase and decrease in weight were confirmed through weekly body weight measurements. Post the confirmation, the zebrafish were subjected to Nile Red Assessment to validate the lipid storage dynamics (Level of Fluorescence \propto Adiposity).

Results: There was a steady increase and decrease in the weights as per anticipated in the respective groups. Following the feeding procedures and confirmation of increase/decrease weight, the zebrafish were analysed biochemically through the lipophilic Nile Red dye which showed that the level of fluorescence was high in the Test A group followed by NC group and the least in Test B group.

Conclusion: The study concluded and emphasised the effectiveness of phytonutrient incorporated fish pellets in the obesity attenuation of zebrafish model that is confirmed through Nile Red Assay.

Key words: Obesity, Phytonutrients, Anti-obesity, zebrafish.



National Scientific Conclave on Interdisciplinary

OP_S3_09

Behavioural Outcomes of Enriched Housing in MPTP-Induced Parkinson's Disease mouse model

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Abstract

Background: Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by motor dysfunction due to the loss of dopaminergic neurons. Environmental factors, such as enriched environments (EE), have been proposed to influence neuroplasticity and functional recovery. This study aimed to evaluate the effect of EE on motor behavior in a mouse model of PD induced by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP).

Methods: Thirty-two C57BL/6 male mice were divided into two main housing groups: standard housing (SH) and enriched environment (EE). Each group was further subdivided into a Parkinson's group (MPTP-treated, 8 mice) and a non-Parkinson's control group (saline-treated, 8 mice). The EE group had access to toys, tunnels, papers of different textures, while SH mice were housed in regular mice cages. Behavioural performance was assessed using the rotarod test, hanging test, and actophotometer test to evaluate motor coordination, grip strength, and locomotor activity, respectively. Inter-group data were analyzed using unpaired t-tests.

Results: Behavioral assessments showed trends of improved motor coordination, grip strength, and locomotor activity in EE mice compared to SH mice within both MPTP-treated and control groups. However, statistical analysis revealed no significant differences between groups in all tests ($p > 0.05$).

Conclusion: Exposure to an enriched environment did not result in statistically significant improvements in motor performance in MPTP-treated mice. Although non-significant, the observed trends suggest that EE may have subtle effects on motor behavior, potentially mediated by neuroplasticity or compensatory mechanisms. Further studies with larger sample sizes and longer durations are warranted to explore the therapeutic potential of EE in Parkinson's disease models.

Keywords: Parkinson's disease, MPTP, Rotarod test, actophotometer, hanging test, enriched environment

Effect of One-week Integrated Yoga Therapy on Lung Function, Physical Endurance, and Mental Health in Asthma Patients - A Pilot Study

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Abstract

Background: Asthma is a chronic respiratory condition characterized by the narrowing of the airways caused by inflammation. The symptoms are wheezing, coughing and difficulty in breathing. Uncontrolled asthma increases the risk of exacerbations, hospitalizations, and associated treatment and productivity loss. Asthma adversely affects patients' lung capacity, physical endurance, quality of life, and overall well-being. Yoga is ancient mind-body intervention that can reduce stress and improve mental well-being. Earlier Yoga-based studies have reported improvements in pulmonary functions, quality of life, and decreased medication use, thereby enhancing the overall quality of life in asthmatics. The Integrated Approach of Yoga Therapy (IAYT) includes asanas (physical postures), pranayama (breathing techniques), meditation, Kriya (detox), dietary and lifestyle modifications. The present study aims to evaluate the effect of IAYT on Peak Expiratory Flow Rate (PEFR), 6-Minute Walk Test (6MWT), and Hospital Anxiety and Depression Scale (HADS).

Methodology: The study recruited 20 asthmatics from the holistic health centre, Bangalore, aged between 18-75 years, both genders. Participants with recent surgeries, pregnant or lactating women, chronic obstructive disorders, and major psychiatric conditions were excluded. Written informed consent was obtained from participants before intervention. The study participants underwent one-week IAYT, which will address both the physiological and psychological aspects of asthma. Data was collected on first and seventh day and analysed.

Result: The study demonstrated significant improvements in key clinical parameters among asthma patients following one week of IAYT. There was a notable increase in PEFR ($p < 0.01$) from 240 ± 90.32 to 271.5 ± 87.19 with 13.13%, an improvement in the 6MWT ($p < 0.001$) from 120.67 ± 27.26 to 141.84 ± 39.21 with 17.54%, and a reduction in HADS ($p < 0.009$) from 13.5 ± 7.74 to 8.45 ± 6.41 with -37.41% respectively.

Conclusion: Therefore, IAYT can be considered a valuable complementary therapy in asthma management for enhancing respiratory function, physical endurance / functional exercise capacity, and mental well-being.

Keywords: Yoga for Asthma, Yoga therapy, Yoga, Lung function, Asthma



National Scientific Conclave on Interdisciplinary

OP_S3_11

“Development, Validation, and Pilot Testing of an Integrated Yoga Module for Chronic Kidney Disease Patients Undergoing Haemodialysis.”

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Abstract

Background: Chronic Kidney Disease (CKD) is a global health challenge, affecting over 800 million people and causing 5-10 million deaths annually. Its progressive nature leads to End-Stage Renal Disease (ESRD), necessitating costly and demanding treatments like dialysis or kidney transplantation. CKD significantly diminishes patients' quality of life due to symptoms such as fatigue, pain, anxiety, and depression. Yoga, an evidence-based, mind-body intervention, alleviates CKD's multifaceted impact. Studies show yoga improves renal function, reduces blood pressure, urea, serum creatinine levels, and enhances overall well-being by mitigating stress, anxiety, and pain. **Methods:** The study done in three phases: development, validation, and pilot testing of an Integrated Yoga Module (IYM) for CKD patients undergoing hemodialysis. The 74-item module was developed by reviewing classic yoga texts and current research. Validated by 30 yoga experts. Items with a Content Validity Ratio ≥ 0.33 were retained, resulting in 57-item IYM. A pilot study involved 10 CKD patients undergoing hemodialysis at a tertiary care Hospital in Kolar. Patients received IYM for one hour, thrice weekly, for a month alongside standard care. Data collected at baseline and post-intervention. **Results:** The study showed significant improvements across key parameters. Stress levels reduced by 43.1% (PSS: 28.8 ± 5.63 to 16.4 ± 4.14), while mindfulness increased by 14.9% (MAAS: 58.2 ± 9.68 to 66.9 ± 4.86). Sleep quality improved significantly, with PSQI scores decreasing by 48.7% (15 ± 4.57 to 7.7 ± 3.92). Post-intervention, 90% of the participants accepted IYM and reflected high satisfaction and excellent experiences. **Conclusion:** The validated IYM demonstrated its effectiveness in reducing perceived stress, enhancing mindfulness, improving sleep quality, and achieving high acceptance among CKD patients. This module offers a promising complementary approach in improving the mental and physical well-being of CKD patients.

Keywords: Chronic Kidney Disease, Mind-body interventions, Quality of Life, Yoga, Validation, Designing, Yoga module



Development of 3D-Bioprinted Personalised Chemotherapeutic Drug Testing Platform for Breast Cancer

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Abstract

Background: Breast cancer accounts for 13.5% of new cancer cases and 10% of cancer-related deaths in India in 2020. Breast cancer treatment involves a multimodal approach, including surgery, radiotherapy, targeted therapy, and chemotherapy. Chemotherapy, however, can severely impact patients' mental well-being, physical health, and overall quality of life. Since these adverse effects vary among individuals, identifying patient-specific chemotherapeutic combinations with maximum efficacy and minimal side effects is crucial. This study aims to develop a 3D-bioprinted tumoroid platform to analyze drug sensitivity tailored to each patient. The platform holds the potential to improve cancer treatment efficacy while minimizing side effects, enhancing patients' quality of life.

Methods: Tumoroids (tumor-derived organoids) were isolated from tumor tissue resected from breast cancer patients. These tumoroids were extrusion bioprinted and characterised using immunocytochemistry. Further, tumoroids were treated with cisplatin, a clinically used chemotherapeutic drug (10 μ M and 100 μ M). Drug response of tumoroids from two patients were determined using live-dead assay. Additionally, DNA damage was confirmed in these samples using immunocytochemistry.

Results: Cisplatin treatment caused significant cell death in PDTOs, with higher sensitivity observed in patient#1 compared to patient#2. At 100 μ M, cell death was high in the tumoroids from the 2 patients compared to controls. At 10 μ M, patient 1 showed higher cell death compared to the control, while patient#2 showed no significant difference. These results indicate that PDTOs from patient#1 are more sensitive to cisplatin, especially at lower concentrations.

Conclusions: 3D bioprinted PDTOs show dose-dependent cisplatin drug response, and it has the potential to reveal patient-specific chemotherapeutic drug sensitivity pattern. By increasing the number of patients and correlating tumoroid drug response with patients' clinical response, efficiency of the platform can be determined.

Keywords: Breast cancer, Chemotherapy, 3D-bioprinting, Patient-derived tumoroids, Personalized therapy.



Yoga for postpartum weight retention and postpartum depression: Research protocol

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Abstract

Background: Postpartum weight retention (PPWR) is associated with an increased risk of adverse outcomes in subsequent pregnancies and chronic illnesses later in life. Additionally, PPWR is strongly linked to postpartum depression (PPD). This study aims to evaluate the effect of a yoga intervention on postpartum weight retention and depression in women with singleton pregnancies.

Methods: This trial will be a multisite, parallel-arm, prospective randomized study with an open-label design and blinded endpoint assessment. A total of 100 postpartum women aged 18–45 years will be randomized in a 1:1 ratio to either a 12-week yoga intervention or a control group. Anthropometric measurements and postpartum depression will be evaluated at baseline and after the intervention. Data will be analyzed using an intention-to-treat approach.

Possible-Outcomes: This trial seeks to determine the effectiveness of a yoga-based intervention in addressing postpartum weight retention and depression in singleton women. It will be the first comprehensive study with a sufficient sample size to simultaneously investigate both PPWR and PPD in this population.

Conclusion: If proven effective, the trial will offer a cost-effective, culturally acceptable, and easily implementable tool to help reduce postpartum weight retention and depression among women with singleton pregnancies.

Keywords: Yoga, Postpartum Weight Retention, Postpartum Depression, Singleton Women



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POSTGRADUATE STUDENTS



Clinical Profile of Familial Hypercholesterolemia Among People Seeking Health Care in Selected Tertiary Hospitals in Mangalore.

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Abstract

Background: Familial hypercholesterolemia (FH) is an autosomal co-dominant genetic condition involving mutations in the LDL receptor, ApoB, or PCSK9 genes, posing a significant public health risk due to elevated chances of early-onset atherosclerosis. The global FH prevalence is 1 in 313, with higher rates in individuals with ischemic heart disease. In India, FH is underdiagnosed, with prevalence estimated between 1:125 and 1:450. Diagnostic criteria like DLCNS, Simon Broome Register, and MEDPED help identify cases early. This study focuses on detecting FH in South India, aiming to reduce cardiovascular risk in line with UN Sustainable Development Goal 3.

Methods: To study the clinical presentations of people with familial hypercholesterolemia

- a) Study setting: teaching hospitals attached to Kasturba Medical College, Mangalore
- b) Study design: cross sectional hospital-based study
- c) Study participants: adult patients with total cholesterol \geq 200 mg/dL.
- d) Inclusion criteria:
 - i) Age \geq or equal to 18 years attending OPD and IPD facility at teaching hospitals attached to KMC Mangalore, ii) Patients with high total cholesterol levels \geq or equal to 200mg/dl will be taken into the study.
- e) Exclusion criteria:
 - i) age $<$ 18 years, ii) patients on thiazide diuretics, pioglitazone, cyclosporine; iii) patients with malabsorption syndromes, hepatic diseases, nephrotic syndrome, iv) patients not willing to give consent
- f) sample size: 184.
- g) Sampling method: Purposive convenient sampling technique.
- h) Tool for data collection: Proforma.



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Results: It was found that 8.1% of participants had definitive hypercholesterolemia, 24.7% of participants had a possibility of familial hypercholesterolemia, 11.8% probably had familial hypercholesterolemia, and it was unlikely for 55.4% of participants to have familial hypercholesterolemia.

Conclusion: Dutch lipid clinical network score was used to categorise patients based on their clinical profile as definite, probable, possible or unlikely familial hypercholesterolemia. The study was aimed at identifying patients with the same, in-order to prevent the risk of cardiovascular morbidity/mortality. It is important to note that most of the patients My study also included the clinical presentation of these patients in order to identify their clinical profile. It was seen that 8.1% of the population studied had definite hypercholesterolemia making them more prone to develop ASCVD.



Expression of α -smooth muscle actin in benign and malignant salivary gland tumors

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Abstract

Background: Myoepithelial cells are known to contribute in the patterning of salivary gland neoplasms and possess cytoplasmic smooth muscle actin revealed by alpha SMA. The study aimed to assess the expression of α -SMA in selected benign and malignant SGN. Neoplastic myoepithelium is considered to be the key participant in histogenesis and their degree of differentiation may be key in diagnosis of challenging cases.

Methods: Detailed histological examination after staining with H&E done for 60SGNs received, among which 30 cases were immunostained with α -SMA and histomorphological patterns and immunohistochemical staining properties including the percentage of positive cells, intensity grading and pattern of distribution.

Results: Benign tumors (77%) predominated over malignant cases (23%) with 31-40years being the most common age group. Pleomorphic Adenoma (50%) was the most common benign tumor while Epithelial Myoepithelial. Carcinoma was the most common malignant tumor (5%). Myoepithelial cells exhibited a variety of histological patterns in various tumors, both benign and malignant which was highlighted by a SMA immunoexpressing. Out of 30 cases, 16 cases showed positive immunostaining with a variety of patterns ranging from block positivity to focal positivity.

Discussion: Alpha smooth muscle actin (α -SMA) is a protein that is commonly expressed in smooth muscle. The expression of α -SMA in better differentiated neoplastic myoepithelium and found the expression of smooth muscle-specific proteins. This study attempted to determine the role of ME in selected SGN by the assessment of α -SMA, an immunohistochemical marker for ME.

Conclusion: α -SMA expression varies in neoplastic epithelium and may indicate the extent of differentiation and in turn aid in diagnosis of these heterogenous group of tumors.

Key Words: Adenoid cystic carcinoma, alpha smooth muscle actin, myoepithelial cells.



National Scientific Conclave on Interdisciplinary

OP_S2_03

Hematological profile of patients with chronic kidney disease

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Abstract

Background: Kidney diseases is ranked 3rd amongst life threatening diseases in India. About 2,00,000 persons progress to terminal kidney failure every year. Chronic Kidney Disease (CKD) will manifest with chronic anemias, due to bone marrow hypoproliferation. Hematological parameters assessment, especially hemoglobin, hematocrit, reticulocyte production index helps in the management of anemias. Hence, we have made an attempt to study all the hematological parameters in CKD patients.

Methods:A total of 120 hospitalized patients of CKD who were not on hemantoinics or erythropoietin therapy were included, irrespective of age, sex, clinical profile and etiology. The stage of kidney disease was evaluated by estimating, estimated Glomerular Filtration Rate (eGFR).

Results:CKD was seen in all age groups with a mean age of 49.1+14.7years and predominantly in males (74.1%). The commonest cause of CKD was diabetes mellitus (33.3%). The mean hemoglobin was 7.8+1.7g/dl and mean Red blood cell (RBC) count was 2.78+0.7/L. The fall in hemoglobin and RBC count inversely correlated with the clinical grade of CKD. The reticulocyte count decreased as the grade progressed. The Reticulocyte Production Index was less than 2 in all 120 cases. Mean White blood cell (WBC) count and mean Platelet count were 7.1x10⁹/L and 202x10⁹/L respectively. The predominant peripheral smear finding was that of normocytic normochromic anemia (86.6%).

Conclusion:Chronic kidney disease is seen in all age groups with a male preponderance. Diabetes was the most common cause of CKD. The anemia was normocytic normochromic, with increasing prevalence as the grade progressed. RPI is highly significant in CKD patients which indicates marrow proliferation status.

Key words:Anemia, Chronic kidney disease, GFR, Reticulocyte Count, Reticulocyte Production Index



Quality of Life Among Adult Type 2 Diabetics on Insulin in select tertiary care hospitals

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Abstract

Background: Type 2 diabetes mellitus (T2DM) is a chronic disorder significantly affecting patients quality of life (QoL). Insulin therapy, a cornerstone of glycemic management, has a complex impact on QoL due to physical, emotional, and financial burdens. Studies on quality of life specific to diabetics on insulin are very few in India. This study evaluates QoL among type 2 diabetics on insulin and explores association with demographic and clinical factors. **Methods:** This cross-sectional study was conducted at select tertiary care hospitals in Mangalore. The study included 141 Type 2 diabetic patients on insulin therapy for over three months. Data on demographics, HbA1c, comorbidities, duration of diabetes, and complications were collected. QoL was assessed using the Quality of Life Instrument for Indian Diabetes Patients (QOLID) and barriers to insulin therapy questionnaire (BITQ). **Results:** Key domains impacted were role limitation due to physical health, financial worries, and emotional/mental health. Treatment satisfaction was moderate. The presence of complications significantly reduced overall QoL scores ($p=0.006$). Peripheral neuropathy (19%) and diabetic foot (7.6%) were the most common complications. Higher HbA1c levels ($\rho=-0.539$, $p<0.001$), increased comorbidities ($\rho=-0.359$, $p<0.001$), and longer duration of diabetes ($\rho=-0.229$, $p=0.02$) were inversely associated with QoL. Key barriers to insulin therapy included fear of pain (23.8%) and public embarrassment during injections (21.5%). Despite these challenges, most participants recognized the benefits of insulin in preventing complications and improving outcomes, with 47.6% agreeing insulin reliably prevents long-term complications. **Conclusion:** This study highlights that diabetes significantly impacts QoL due to complications, treatment burdens, and financial constraints and underscores the importance of addressing emotional well-being, treatment satisfaction, and social support in improving QoL among T2DM patients on insulin. Tailored interventions focusing on glycemic control, early management of complications, and addressing patient concerns about insulin therapy can improve QoL in T2DM patients.



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OP_S2_05

Decoding Male Infertility: A Comprehensive Semen Analysis of 160 cases.

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Abstract

Background: The prevalence of infertility in general population is 15-20%, out of which the male factor contributes to 20-40%. The semen analysis is an indispensable diagnostic tool in the evaluation of male gender in infertile couples.

Methods: This is a retrospective study assessing semen findings in 160 men which was evaluated in a tertiary care hospital in Bengaluru from January 2023 to December 2024. All semen samples were manually processed and analysed according to methods and standards outlined by the latest world health organization guidelines. Sperm volume, viscosity, concentration, motility and morphology were observed.

Results: This study included a total of 160 cases. Age of the study population ranged from 20-48yrs with a mean age of 30.02±2yrs. We identified abnormal semen quality having significant influence on infertility in couples. 35.6 % cases showed severe sperm abnormalities including oligoasthenoteratozoospermia, azoospermia and pyospermia. In addition, hormonal profile was also ordered in 22 cases, amongst which 22.8% cases showed abnormal levels.

Conclusion: Semenogram is an essential tool for male infertility analysis by a pathologist and provides diagnostic clues to the attending clinician. Risk Factor identification and utilizing advanced diagnostic modalities for male infertility workup are strongly suggested.

Keywords: Semen analysis, infertility, hormone.



Rate of occurrence of pseudoexfoliation in diabetic patients with senile cataract in South Indian rural population.

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Abstract

Background: Pseudoexfoliation syndrome (PEX) is an age-related fibrilopathy involving abnormal extracellular matrix production, leading to granular fibril accumulation in ocular and extraocular tissues. It is genetically linked to LOXL1 polymorphisms, which affect connective tissue integrity. Clinically, PEX is a significant risk factor for exfoliation glaucoma (XFG), characterized by elevated intraocular pressure and faster progression than primary open-angle glaucoma (POAG). PEX also complicates cataract surgery due to lens zonule instability. Prior research suggests potential links between PEX and systemic vascular diseases, including diabetes mellitus (DM), a major cardiovascular risk factor with rising prevalence, particularly in developing countries.

Purpose: 1) To determine the rate of occurrence of pseudoexfoliation (PEX) in type 2 diabetics with senile cataracts.

2) To compare the rate of occurrence of pseudoexfoliation (PEX) in type 2 diabetics with senile cataracts with the prevalence of pseudoexfoliation (PEX) in non-diabetics with senile cataract.

Methods: patients were examined for visual acuity (Snellen's and Jaeger's charts), slitlamp biomicroscopy to detect pseudoexfoliative material and cataract morphology (LOCS II), intraocular pressure (Goldmann applanation tonometry), gonioscopy for anterior chamber angle, fundus evaluation (direct/indirect ophthalmoscopy), and B-scan for hazy media in advanced cataracts rate of occurrence of PEX in diabetics was determined and compared with non-diabetics.

Results: 99 eyes from 50 diabetic patients were examined and 100 eyes from 50 non-diabetic patients were examined: PEX was present in 11 of the diabetic eyes with senile cataract and 21 of non-diabetic eyes with senile cataract.

Conclusion: According to our findings, diabetics have a lower prevalence of PEX than nondiabetics.

Key words: Pseudoexfoliation(PEX), Diabetes Mellitus(DM), Senile cataract, exfoliation glaucoma (XFG), primary open-angle glaucoma (POAG).



Gestational Type 2 Diabetes Mellitus and its influence on Retinopathy of Prematurity.

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Abstract

Background: Gestational Type 2 diabetes mellitus is a growing concern during pregnancy, characterized by elevated blood sugar levels. Retinopathy of prematurity is a retinal disorder that affects preterm infants and is linked to abnormal retinal blood vessel growth. Although ROP is mainly associated with prematurity, studies suggest maternal diabetes could increase its risk. This study aims to explore the impact of maternal T2DM on the development of ROP in preterm infants.

Methods: Retrospective study examined the medical records of preterm infants born between 2021 and 2024 at RL Jalappa hospital. Infants whose mothers had gestational Type 2 diabetes records were evaluated for incidence of ROP, assessed during screening. The data were analysed using statistical methods to identify associations between maternal T2DM and ROP incidence, adjusting for gestational age, birth weight, and other maternal conditions.

Results: Out of 146 preterm infants born to mothers with gestational T2DM, 38 (26.2%) developed ROP. Of these, 15 infants (12.5%) had severe stages (2 and 3) of ROP. The risk of ROP was found to be significantly higher in infants of mothers with gestational T2DM, even after adjusting for gestational age and birth weight. The incidence of severe ROP stages was notably concerning, highlighting the potential impact of maternal T2DM on retinal health in preterm infants.

Conclusion: Gestational Type 2 diabetes is associated with an increased risk of ROP in preterm infants. These findings emphasize the need for close monitoring of preterm infants born to mothers with T2DM, with early intervention strategies to mitigate ROP risk and optimize care for these infants.



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OP_S2_08

Eyeing the details: Association between macular thickness, Axial length in myopic eyes.

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Abstract

Purpose: Myopia is the most common error of refraction and, in many countries; complications related to high myopia are a major cause of blindness. This study aims to study the correlation of central macular thickness with axial length in myopes.

Method: A cross-sectional study conducted for a period of 1 year included patients aged >18 and <35 years old with myopia >-0.5D. Glaucoma, refractive surgeries, pts with retinal disorders were excluded. The Central macular thickness (CMT) was correlated with age, axial length (AL) using SD-OCT.

Results: Among 61 subjects (aged 18-35), mean age was 26.2 ± 4.5 years. Mean axial length and SE were 26.0 ± 1.5 mm and -5.0 ± 2.9 diopter, respectively. Macular thickness decreased with axial elongation, especially in the peripheral region.

Conclusion: Associated with myopic progression and AL extension, the central foveal thickness increased, while the retinal thickness of the inner and outer regions decreased.



Vision-Related Quality of Life and Visual Outcomes from Cataract Surgery in Patients with Diabetic Retinopathy: A Retrospective Observational Study

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Abstract

Background: Diabetic retinopathy (DR) is a common microvascular complication of diabetes mellitus (DM), and remains the leading cause of preventable blindness. Treatment success not only depends on the success of the surgery performed but also with regard to its impact on different areas of the patient's life. To assess the impact of cataract surgery on vision-related quality of life (VRQoL) and visual outcomes in patients with DR

Objective: To evaluate the Vision-related Quality of Life in patients with Diabetic retinopathy after cataract surgery

Methods: This retrospective study was conducted on 94 diabetic patients with DR in the Department of Ophthalmology from November 2024 to January 2025. All patients who underwent unilateral manual small incision cataract surgery on the worse eye were evaluated preoperatively as per the standard protocol for cataract surgery and VRQoL was assessed using the Indian Vision-related Quality of Life Functioning Questionnaire-33 (IND-VFQ-33) questionnaire preoperatively and postoperatively, determined using paired t-tests (p -value <0.05).

Results: In the present study, the mean age of patients was 64.34 ± 8.09 years (range: 42-79 years), with a predominance of males (66%). The results demonstrated significant improvements in Best corrected visual acuity (BCVA) from the preoperative to postoperative period. Similarly, the IND-VFQ-33 questionnaire revealed significant improvements in various domains following cataract surgery. The improvements were statistically significant (p -value <0.001) for general functioning, mobility, activity limitation, psychosocial impact and visual symptoms across the entire study population and in all grades of DR, indicating a positive impact of cataract surgery on patients' quality of life.

Conclusion: Most of the cataract patients with diabetic retinopathy were male with moderate to severe DR. These results show that cataract surgery improves VRQoL beyond just visual acuity and highlight the importance of considering VRQoL when making treatment decisions, focusing on patient-centered care.

Key words: Vision-Related Quality of Life (VRQoL), Diabetic Retinopathy (DR), Cataract Surgery, Quality of Life Assessment, IND-VFQ-33 Questionnaire, Best-Corrected Visual Acuity (BCVA), Patient-Centered Care, Microvascular Complications, Retrospective Observational Study, Psychosocial Impact.



Assessing the diagnostic Accuracy of Fine Needle Aspiration Cytology in Preoperative detection of Mucoepidermoid Carcinoma: A Cross-Sectional Analysis.

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Abstract

Introduction: Mucoepidermoid carcinoma (MEC), the most common malignant tumor of the salivary glands, accounts for 5-10% of such neoplasms. While Fine Needle Aspiration Cytology (FNAC) is a cost-effective method for preoperative diagnosis, evaluating MEC poses significant diagnostic challenges due to its diverse cytological presentation. This study investigates the correlation between FNAC and histopathology in MEC, highlights diagnostic pitfalls, and explores its cytomorphological variability.

Material and Methods: This cross-sectional study was undertaken in the Department of Pathology at AIMS, B.G. Nagara, spanning the period from January 2022 to December 2024. The study population included patients aged 21 to 76 years, with a mean age of 42.25 years. Inclusion criteria focused on cases that were suspected of mucoepidermoid carcinoma (MEC) based on findings from Fine Needle Aspiration Cytology (FNAC) or histopathological examination.

Results: The study comprised 36 cases, with the parotid gland being the most frequently involved. Cytological findings revealed 29 true positives and 7 false negatives, while no false-positive or true-negative cases were observed. The FNAC demonstrated a sensitivity of 77.7% and a positive predictive value of 100%.

Conclusion: This study reaffirms the diagnostic role of FNAC in salivary gland lesions mucoepidermoid carcinoma, with excellent specificity reflected by its 100% positive predictive value. However, the sensitivity of 77.7% suggests the necessity of complementary diagnostic methods to address the issue of false negatives.

Keywords: Mucoepidermoid carcinoma(MEC), FNAC, cytomorphology



National Scientific Conclave on Interdisciplinary

OP_S2_11

Assessment of Nutritional Status & Evaluation of CVD Risk by using WHO/ISH risk prediction charts in people of Kolar District, Karnataka”

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Abstract

Background: Cardiovascular diseases (CVDs) are the leading cause of global mortality and a significant health concern in India. Identifying high-risk individuals and addressing modifiable risk factors are critical for mitigating the growing burden of CVDs in resource-limited settings. This study assessed the nutritional status and evaluated the 10-year CVD risk using WHO/ISH risk prediction charts among adults aged ≥ 40 years in Kolar District, Karnataka.

Methods: This cross-sectional study was conducted over three months, involving 150 participants selected through convenience sampling. Data collection included structured questionnaires, anthropometric measurements, dietary surveys, and biochemical analyses. Nutritional status was assessed using body mass index (BMI), and the 10-year CVD risk was evaluated using WHO/ISH charts for the SEAR-D region.

Results: The study revealed that 46.7% of participants were classified as obese (BMI ≥ 27.5). Hypertension and diabetes mellitus were prevalent in 40.7% and 24% of participants, respectively, with males showing a higher prevalence of hypertension and females exhibiting a greater rate of diabetes. The WHO/ISH risk prediction charts identified a moderate to high 10-year CVD risk in 17% of participants. Significant correlations were observed between obesity, lifestyle factors, and CVD risk.

Conclusion: This study highlights the urgent need for community-based interventions targeting modifiable risk factors such as unhealthy diets, physical inactivity, and metabolic health to reduce CVDs in semi-urban populations. The findings underscore the utility of WHO/ISH risk prediction charts as cost-effective tools for identifying high-risk individuals and guiding early preventive measures. Comprehensive strategies to improve cardiovascular health are essential in resource-limited settings to address the public health challenges posed by CVDs.

Key words: Cardiovascular Diseases, Hypertension, Nutritional Status, Public Health , BMI



National Scientific Conclave on Interdisciplinary

OP_S2_12

The Assessment of nutritional status and evaluation of sarcopenic status in head and neck cancer patients

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Abstract

Background: Head and neck cancer (HNC) is strongly associated with malnutrition and sarcopenia, conditions that adversely affect treatment tolerance, recovery, and overall survival. Despite the known prevalence of these conditions, there is a lack of comprehensive understanding of their interplay in HNC patients, hindering effective interventions.

Objective: To assess the nutritional status and evaluate sarcopenic stages in patients with HNC, thereby identifying factors contributing to these conditions and proposing targeted interventions.

Methods: This cross-sectional study was conducted over three months in a semi-urban population in Kolar District, Karnataka, India. Participants were selected based on inclusion criteria, and assessments were conducted using structured questionnaires covering demographic data, medical history, dietary patterns, and lifestyle factors. Nutritional evaluations included anthropometric measurements, biochemical assessments, and the Patient-Generated Subjective Global Assessment (PG-SGA). Sarcopenia was evaluated using validated formulas for skeletal muscle and muscle mass.

Results: Preliminary findings revealed a high prevalence of malnutrition (30–50%) and sarcopenia (6.6–70.9%) among the study population. Contributing factors included reduced food intake, dysphagia, and metabolic derangements. Early nutritional interventions tailored to individual needs showed the potential to mitigate muscle loss and improve treatment outcomes.

Conclusion: This study underscores the importance of early and comprehensive nutritional assessments and sarcopenia management in HNC patients. The findings emphasize the need for integrating personalized nutritional care into oncology practices to enhance patient prognosis and quality of life. Future research should investigate the long-term impacts of these interventions on survival and recovery.



National Scientific Conclave on Interdisciplinary

OP_S2_13

Association of Inflammatory markers & hematological inflammatory indices in predicting Pseudoexfoliation

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Abstract

Purpose: In recent years, inflammation & oxidative stress play an important role in the pathogenesis of Pseudoexfoliation (PEX).

Methods: A case control study was conducted involving 390 patients > 50 years with bilateral PEX as cases (195) & healthy individuals without PEX as controls (195). Neutrophil-Lymphocyte Ratio (NLR), derived Neutrophil-Lymphocyte Ratio (dNLR), Platelet-Lymphocyte Ratio (PLR), Red cell distribution width (RDW), Systemic Inflammation Response Index (SIRI), Prognostic Inflammation Value (PIV) was determined.

Results: Statistically significant differences in neutrophil and lymphocyte levels were evident between the groups. A notable statistical distinction was observed in the NR, PLR, NLR, SII, SIRI, and PIV indices in PEX than controls ($p < 0.05$). RDW levels were significantly higher in patients with PEX than in controls.

Conclusion: This novel and low-cost parameter can provide useful information for the relevant risk evaluation in PEX

Key words: Pseudoexfoliation syndrome, Neutrophil-to-Lymphocyte Ratio, Platelet-to-Lymphocyte Ratio, Red Cell Distribution Width, Systemic Inflammatory Response Index, Prognostic Inflammatory Value, Inflammation, Glaucoma



Study Of Upper Gi Endoscopy and Helicobacter Pylori Infection Among Type 2 Diabetes Mellitus Patients with Dyspepsia

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Abstract

Background: Type-2 diabetes mellitus (T2DM), a prevalent metabolic disorder characterized by chronic hyperglycemia due to insulin resistance and β -cell dysfunction, often leads to gastrointestinal (GI) complications. Dyspepsia, marked by upper abdominal discomfort, pain, bloating, and nausea, is common complaint among T2DM patients, with multifactorial origins including diabetic gastroparesis, autonomic neuropathy, and altered gut microbiota. The prevalence of Helicobacter pylori (H. pylori) infection, particularly high in developing countries, adds complexity to the dyspeptic symptoms in T2DM. Compromised immune function and altered gastric motility in T2DM may increase susceptibility to H. pylori, further exacerbating dyspepsia. Understanding the interplay between H. pylori infection and T2DM is crucial for improving diagnostic accuracy and developing targeted treatment strategies for dyspepsia in this population.

Methods: A cross-sectional observational study was conducted between July 2023 and June 2024 at K.S. Hegde Medical College, Mangalore. A total of 108 patients included, comprising 54 diabetic patients and 54 non-diabetic patients presenting with dyspepsia. Data on age, gender, duration of diabetes, fasting and postprandial blood sugar levels, medications, hemoglobin A1c (HbA1c) levels, dyspepsia symptoms, and their duration were collected. Upper GI Endoscopy was performed on all participants, and biopsies were obtained from the esophagus, stomach, and duodenum for rapid urease test (RUT) and histological examination.

Results: Epigastric pain was more common in diabetics (51.7%) than in non-diabetics (32.8%, $p = 0.039$), and similar trend was observed for epigastric burning (72.4% in diabetics vs. 48.3% in non-diabetics, $p = 0.013$). Diabetic patients reported longer mean duration of dyspepsia (7.7 months) compared to non-diabetics (6.0 months, $p = 0.027$). Diabetic patients had higher prevalence of positive RUT results (56.9% vs. 32.8% in non-diabetics, $p = 0.008$). A higher proportion of diabetic patients had antral gastritis (87.75% vs. 57.14% in non-diabetics, $p = 0.001$). Histological confirmation of H. pylori was also more common in diabetics (56.9% vs. 32.8% in non-diabetics, $p = 0.009$). Histopathological analysis of the stomach showed higher prevalence of gastritis in the fundus/body (61.22% in diabetics vs. 23.57% in non-diabetics, $p < 0.001$).

Conclusion: The study indicates significant association between H. pylori infection and dyspepsia in Type 2 Diabetes Mellitus patients. Diabetic patients are at higher risk of H. pylori infection, which exacerbates gastrointestinal symptoms.

Keywords: Dyspepsia, Helicobacter pylori, Type 2 Diabetes Mellitus, Upper GI scopy, Glycemic control, Gastric mucosa.



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ABSTRACTS OF POSTER PRESENTATIONS FACULTY

Granulomas importance and interpretation in oral malignancy- A Case Report.

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Abstract

Background: Granulomatous inflammation seen in neoplastic disorders. These include as a part of primary cancer or granuloma in draining lymph nodes of various cancers⁴ Oral Verrucous carcinoma is associated with HPV, smoking and tobacco chewing. Present case is a unique case of malignancy presenting with non-caseating granulomas. Squamous cell carcinomas are associated with granuloma formation but, is it associated with infectious or non-infectious or any autoimmune disease association will aid patient in the proper treatment and prognosis of the granulomatous lesion.

Case details: A 58-year-old female was apparently alright 1 month back after which she developed mass in the inner aspect of left cheek which was insidious in onset, rapidly progressive. There was no history of oral bleed or trauma or dental procedure. The Co-Morbidities include T2 diabetes mellitus since 10 Years and hypertension since 3 months. H/o tobacco chewing since 20 years. Surgical treatment procedure includes composite resection, Left MRND and PMMC Flap Reconstruction and specimen was sent for histopathological evaluation.

Results: Gross images:



Histopathological images:

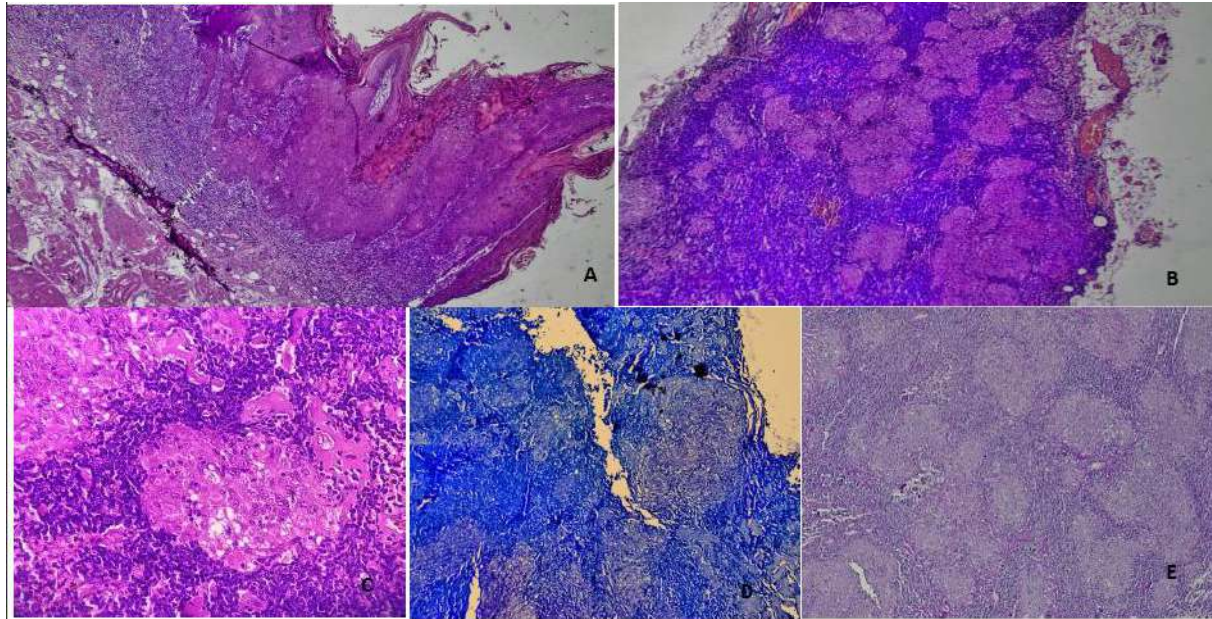


Image A shows H and E section of verrucous carcinoma showing hyperplastic keratinizing stratified squamous epithelium with elongated rete ridges with pushing borders and cells shows mild atypia subepithelium shows dense lymphoplasmacytic infiltration. No invasion into stroma is seen in section studied. B and C Image shows many non caseating granulomatous lymphadenitis with asteroid bodies. Image D shows Z-N Stain negative for acid fast Bacilli Image E shows PAS Stain negative for fungal elements

Discussion: The mechanism for the development of malignancy in patients with sarcoidosis is unknown and likely is multifactorial. Multiple theories have been proposed. Sarcoidosis is marked by the development of granulomas secondary to the interaction between CD4+T cells and antigen presenting cells, which is mediated by various cytokines and chemokines, including IL-2 and IFN- γ .

Conclusion: An association between sarcoidosis and malignancy has been suggested for several decades. We specifically reported 1 case of patient with incidental detection of multiple non-caseating granulomatous reaction in lymph node with buccal mucosa verrucous carcinoma. Further investigation is needed to prove the disease process as sarcoidosis is the diagnosis after exclusion. This will help the patient to prevent the disease progress, treatment and prognosis.

Key words: Granulomas, Oral malignancy, Sarcoidosis, Asteroid body.



A Tangled Tale of Stressed Out and Tressed Out: Unraveling Hair Loss in Panic Disorder"- A Case report.

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Abstract

Background: Panic disorder is an anxiety condition characterized by repeated, unexpected panic attacks, causing intense fear, palpitations, and distress. Selective serotonin reuptake inhibitors (SSRIs) are widely regarded as the first-line pharmacological treatment for panic disorder due to their efficacy in modulating serotonin levels. Among SSRIs, paroxetine is particularly effective. However, rare adverse effects like hair loss, though infrequently reported, can occur and significantly impact treatment adherence and patient quality of life.

Methods: We report the case of a 26-year-old married woman from a rural background, diagnosed with panic disorder with agoraphobia. She was prescribed paroxetine and clonazepam to manage her symptoms. Her progress was monitored through follow-ups and clinical assessments, supported by standardized diagnostic tools and relevant investigations.

Results: The patient demonstrated significant improvement in panic attacks within a month of treatment. However, she reported sudden onset hair loss, diagnosed as telogen effluvium after dermatological consultation. No other pathological cause for hair loss was identified. Paroxetine was identified as the likely cause, based on temporal association and absence of other contributing factors. Following a switch to bupropion, the patient-maintained improvement in panic symptoms without further hair loss.

Conclusion: This case highlights telogen effluvium as a rare adverse effect of paroxetine, emphasizing the need for clinicians to monitor for such reactions during treatment. Understanding the mechanisms of SSRI-induced hair loss, including its influence on the telogen phase and potential anti-muscarinic activity, is crucial for effective management. Individual variability and predisposition may contribute to this rare side effect. Timely identification and medication adjustment can enhance patient outcomes and adherence, underscoring the importance of personalized care in psychopharmacology.



National Scientific Conclave on Interdisciplinary

PP_F_03

Burkholderia cepacia: serious opportunistic pathogen - grown in Blood Cultures in two patients: Case reports.

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Abstract

Background: Burkholderiacepacia is an environmental phytopathogen. This nutritionally versatile, Gram-negative bacilli, resistant to many antibiotics, causes opportunistic infections in humans, namely trench foot, pneumonia, urinary tract infections, wound infections, septicemia and endocarditis. The following case scenarios are presented to highlight the importance of such opportunistic infections as a cause of septicemia. **Case report 1:** 35-year-old male, from Chintamani, presented with fever and painful submandibular swelling on the right side of his neck. Swelling initially pea sized, progressed to size of 4x3 cm, over period of 20 days. FNAC of swelling was suggestive of Right cervical lymphadenitis. Blood culture grew **Burkholderiacepacia complex**, susceptible to Ceftazidime, Cefoperazone/Sulbactam, Meropenem, Minocycline and Cotrimoxazole. The patient was newly diagnosed as Diabetes mellitus, was managed conservatively with IV antibiotics and supportive measures, and discharged at request to another centre. **Case report 2:** 70-year-old elderly female, from Chintamani, known diabetic, was admitted with complaints of fever from 1 week, vomiting and altered sensorium, evaluated to be Subdural empyema. Left parietal craniotomy was performed, and the pus grew Acinetobacter, susceptible to Imipenem, Meropenem, Doxycycline, Ceftazidime, Ampicillin/Sulbactam and Piperacillin Tazobactam. Following IV antibiotics for three days, blood culture showed the presence of **Burkholderiacepacia complex**. This isolate was susceptible to Ceftazidime, Cefoperazone/Sulbactam, Meropenem, Minocycline and Cotrimoxazole. In view of poor general condition, low albumin, long term illness she developed a cardiac arrest, for which was she administered resuscitation and revived. But aspiration pneumonia and inadequate response to inotropes resulted in a fatal outcome. **Conclusion:** Burkholderiacepacia is an important opportunistic pathogen causing blood stream infection. Diabetes mellitus was an associated factor linked with this infection. Ceftazidime, Cefoperazone/sulbactam, Meropenem, Minocycline and Cotrimoxazole have shown good invitro activity against this isolate.

Key words: Burkholderiacepacia, Diabetes mellitus, Blood Culture



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Ph.D SCHOLARS

The Impact Of Oral Iron Supplementation On Maternal Iron Indices Among Pregnant Women With Moderate Iron Deficiency Anemia - A Prospective Cohort Study.

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Abstract

Introduction: Iron deficiency anemia (IDA) is a prevalent and potentially serious condition that affects a significant number of pregnant women worldwide. We aimed to study the trajectories of hematologic and biochemical markers in moderately anaemic pregnant women receiving oral iron supplementation throughout pregnancy.

Methods: This prospective cohort study was conducted from March 2021 to September 2023 involving 315 pregnant women from rural areas of Belgaum, Karnataka, India, with haemoglobin levels between 7.0-9.9 g/dL and serum ferritin <30 ng/mL and/or TSAT <20%. Participants received iron-folic acid supplementation as per Anaemia Mukh Bharat guidelines. Blood samples were collected to measure various hematologic and iron markers and compared across each visits.

Results: We report a complete adherence rate of 95.3% for iron and 97.8% for folic acid supplementation throughout pregnancy and also observed significant improvements in haemoglobin (9.36(8.55, 9.74) to 12.03(11.49, 12.72)) g/dL, haematocrit (29.93 ± 2.87 to 33.71 ± 3.69) %, MCV (72.16 ± 7.90 to 83.47 ± 7.65) fL, MCH (22.44 ± 3.01 to 26.77 ± 3.08) pg, levels from the early second to the early third trimester of pregnancy, with significant difference (<0.001). Increased erythropoiesis was reported by a higher reticulocyte haemoglobin (23.30 ± 3.03 to 27.84 ± 3.83) pg and immature reticulocyte fractions (6.90(4.30, 9.50) to 7.30(4.3, 11.0)) %. Initially, iron, ferritin, and TSAT levels increased but later stabilized or slightly declined towards the end of pregnancy.



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Conclusions: Daily iron and folic acid supplementation improve iron indices in pregnant women with moderate IDA. Health practitioners should emphasize supplementation benefits during antenatal visits. Further research with diverse populations and long-term follow-up is needed.

Keywords: Iron deficiency anaemia, Oral iron supplementation, Pregnancy, Iron indices, Red cell indices.



Assessment of Maternal Haematological Parameters in Adverse Pregnancy

Outcomes: A Cross-Sectional Study

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Abstract

Introduction: Adverse pregnancy outcomes (APOs) including prematurity, low birth weight, stillbirth and birth defects are substantial concerns in developing and developed countries. Maternal haematological parameters play a crucial role in sustaining a healthy pregnancy. Deviations from normal levels may present risks for APOs. Nevertheless, the exact correlation between haematological parameters and APOs is not fully understood. Accordingly, this investigation sought to assess the variations in haematological parameters before and after delivery among women experiencing APOs. The study aimed to compare the haematological parameters (Complete blood count, Differential count) before and after delivery in women with adverse pregnancy outcomes.

Methodology: This cross-sectional study was conducted among 714 pregnant women aged between 18-40 years from March 2021 to August 2022 in KLE's Dr. Prabhakar Kore Hospital, Belagavi, Karnataka, India. Maternal blood sample was collected before and after delivery and haematological parameters were compared. Adverse outcomes such as preterm birth, low birth weight, and stillbirth were recorded.

Results: The median age of the women in this study was 24 (Q₁, Q₃:21,26) years. The interaction between time points and adverse pregnancy outcomes showed significant differences in the levels of Haemoglobin(Hb), Packed cell Volume (PCV) and Red Blood Cells (RBCs). None of the other haematological parameters were statistically significant.

Conclusion: Our study found the interaction between time points and adverse pregnancy outcomes showed significant differences in the levels of Hb, PCV and RBCs. These findings emphasise the importance of longitudinal monitoring of haematological parameters for early identification and management of women at risk of adverse pregnancy outcomes.

Keywords: Pregnancy; Adverse pregnancy outcomes; haematological parameters; Preterm birth, Low birth weight.



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Identifying biomarkers of diabetes-associated breast cancer initiation and progression

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Abstract

Background: Breast cancer (BrC), a leading cause of cancer-related deaths in women globally, including India shows complex interrelations with type 2 diabetes (T2D), a growing global health concern. Literature indicates T2D-associated BrC patients (BrC-D) face higher mortality and poorer treatment outcomes. Both diseases involve metabolic dysregulation, making metabolomics a powerful tool for biomarker discovery. This study explores biomarkers for diabetes-associated breast cancer initiation and progression in Indian women considering anthropometric and metabolic variations. **Methods:** This is a cross-sectional study that categorizes participants into four groups: healthy individuals without BrC or T2D (NC-ND), T2D patients without BrC (NC-D), BrC patients without T2D (BrC-ND), and BrC patients with T2D (BrC-D). Blood plasma and urine samples along with baseline parameters are collected from the participants. Metabolite profiling is done using Nuclear Magnetic Resonance (NMR) spectroscopy and Liquid Chromatography-Mass Spectrometry (LC-MS). Statistical analyses will compare metabolite levels across all the groups to develop composite biomarker profiles. **Results:** Preliminary NMR-based analysis highlights distinct metabolic patterns among the groups, with reduced levels of isoleucine, valine, and tyrosine in BrC patients compared to non-cancer participants. Elevated isoleucine levels were elevated in BrC-D patients relative to BrC-ND. These findings provide an initial framework for ongoing metabolomic analysis and validation using LC-MS. Analysis of baseline characteristics shows patients with BrC had a higher mean age at menarche and lower age at first childbirth, contrary to known risk patterns in literature. LDL and triglycerides level were higher in BrC patients. **Conclusion:** This integrative metabolomics study highlights its potential for identifying distinct metabolic patterns in the study patients, providing valuable insights into disease mechanisms and potential diagnostic markers. Future work will expand sample size and incorporate mass spectrometry for investigating biomarkers and validate findings.

Key words: Breast cancer, type 2 diabetes, metabolomics, Nuclear Magnetic Resonance, Mass Spectrometry.



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POSTGRADUATE STUDENTS



National Scientific Conclave on Interdisciplinary

PP_S2_01

An Opportunistic Infection Masquerading as Demyelinating Disorder.

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Abstract

Case summary: A 28-year-old male who is nil comorbid presented with complaints of headache, blurring of vision, vomitings. Initial evaluation done with ARI BRAIN PLAIN showed multiple FLAIR hyperintensities in bilateral frontoparietal lobe suggestive of Demyelination/Vascular etiology and Optic neuritis. He later developed rapidly progressive bilateral visual loss, sudden onset bilateral hearing loss. Neurology opinion taken, advised MRI BRAIN WITH CONTRAST WITH ORBITAL CUTS which shows features suggestive of infective etiology with DD of Demyelinating lesion and Optic neuritis. Serology came positive for HIV. CS Cytology shows features suggestive of Cryptococcus Meningitis and Indian Ink came positive for Cryptococcus. CS culture shows growth of Cryptococcus neoformans. Based on Neurology opinion, initiated on Induction regimen of Liposomal Amphotericin B and Flucytosine. Post treatment he developed complications like Acute pulmonary edema and Acute kidney injury treated accordingly. As disease is progressive in immunocompromised patients and late presentation, in spite of best efforts, patient succumbed to death.



National Scientific Conclave on Interdisciplinary

PP_S2_02

Shadows of the mind: Exploring steroid induced nocturnal hallucinations

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Abstract

INTRODUCTION: Corticosteroids are commonly used for pain management and inflammatory conditions. Steroid induced complications are many, most frequently seen is the psychosis. These complications can occur shortly after steroid treatment begins or at any point during therapy, and even after treatment has stopped. Psychosis is an amalgamation of clinical symptoms that generically describes a mental state involving the loss of contact with reality, delusions, hallucinations, and disordered thinking.

CASE: A 58-year-old female presented to the OPD with C/O Hearing voices which others cannot hear and seeing images which others cannot see, these voices and images are of two people whom she knows and are her neighbours. She can hear the voices only at night time and not during the day. Patient has chronic knee pain from many years for which she was taking Tab Prednisolone 10mg 1-2 tablets per day from 2 years on & off, from 1 month she has daily usage. Patient had stopped the steroid tablet one day prior to admission and her hallucinations stopped.

Discussion: This case falls under substance or medication-induced psychosis, as defined in the 5th edition of DSM. Steroids are used to treat inflammatory conditions. Many cases resolve on its own without any intervention.

Conclusion: There is evidence indicating the existence of steroid-induced psychotic symptoms, but very less cases present with nocturnal hallucinations. Since this reaction is likely iatrogenic and can often be prevented with careful steroid usage, incorporating awareness of these adverse effects, identifying risk factors, and considering treatment options could enhance clinical practice.

Key words: steroid/ drug, psychosis, hallucinations, DSM 5



National Scientific Conclave on Interdisciplinary

PP_S2_03

Sarcopenia In Hemodialysis Patients: Correlation with Creatinine and Stress Levels

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Abstract

Background: Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar), which leads over time to serious damage to the kidneys. Haemodialysis is the most common type of dialysis. About 90% of all people who need dialysis receive haemodialysis. Sarcopenia characterized by the progressive loss of skeletal muscle mass, strength and function is a common and debilitating condition often observed in patients undergoing hemodialysis. Hence it is important to observe the sarcopenia with stress levels among maintenance hemodialysis patients.

Objectives: To determine the association of creatinine and stress levels with sarcopenia changes

Material and methods: The study was conducted at Nephrology Department of RL Jalapa Hospital and Research Center patients undergoing maintenance Haemodialysis twice a week with an age group between 20 to 60 years. A pretested structured questionnaire was used to collect required information.

Results and Discussion: The analysis demonstrated a significant positive correlation between serum creatinine levels and muscle mass. Patients with lower creatinine levels were found to have reduced skeletal muscle mass indicating that creatinine can serve as reliable marker for muscle depletion in haemodialysis patients and elevated stress level measured through validated stress questionnaires was associated with an increased prevalence of sarcopenia. The hormonal changes caused by stress, particularly cortisol levels may contribute to muscle protein breakdown and impaired muscle synthesis.

Conclusion: Sarcopenia is significantly observed among maintenance haemodialysis and also stress levels are positively correlated with sarcopenia and Creatinine values were also observed significantly positive

Keywords: Diabetes, Haemodialysis, Sarcopenia, Creatinine and Stress levels



Cyst-Ery In Kidney: Unravelling The Unknown

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Abstract

Background: Hydatid disease, caused by Echinococcus species, primarily affects the liver and lungs but can also involve the kidneys, though it is rare. Renal hydatid cysts account for only 2-3% of all hydatid infections, often presenting with vague symptoms such as flank pain, hematuria, or dysuria. Due to their nonspecific presentation, they can be easily overlooked, leading to delays in diagnosis. In endemic regions, however, hydatid cysts should be considered when patients present with unexplained renal masses. Imaging and histopathology are crucial for an accurate diagnosis and guiding treatment.

Methods: A 41-year-old male presented with intermittent left flank pain lasting three months. He had no fever, hematuria, or dysuria, and his physical exam was unremarkable except for left flank tenderness. A contrast-enhanced CT scan revealed a large, multiseptate cystic mass in the upper and mid-calyx regions of the left kidney. Suspecting a rare aetiology, the patient underwent marsupialization, a procedure to drain the cysts. The excised cysts, ranging from 2x1.5 cm to 13x10 cm, were sent for histopathological examination.

Results: Gross examination revealed multiloculated cysts filled with serous fluid. Histopathology showed a hydatid cyst with a well-defined outer pericyst, a laminated middle layer, and protoscolices with calcified hooklets—hallmarks of Echinococcus infection. These findings confirmed the diagnosis of renal hydatid disease.

Conclusion: Renal hydatid cysts, though rare, should be considered in patients presenting with unexplained flank pain, especially in endemic areas. Imaging techniques like CECT are valuable in identifying cystic lesions, while histopathology remains the gold standard for definitive diagnosis. Marsupialization is an effective surgical approach for large cysts, and early diagnosis can help prevent complications and improve outcomes.

Keywords: Renal hydatid cyst, Echinococcus, CECT, Marsupialization, Protoscolices



National Scientific Conclave on Interdisciplinary

PP_S2_05

Assessment Of Myths, Misconceptions And Dietary Patterns Among Diabetic Patients Attending Tertiary Care Hospital

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Abstract

Background: Diabetes is a complex, chronic illness requiring continuous medical care with multifactorial risk-reduction strategies beyond glycemic control. Misconceptions can lead to poor glycemic control among diabetic patients and hence may result in complications which affect patient's health, productivity, and quality of life. The prevalence of myths about diabetes could be associated with poor health seeking behavior and poor compliance with treatment. As such there is no structured diabetes education offered at the medical college and hospital. Hence it is important to assess the common myths and misconceptions among diabetic patients about diet in order to plan a good health.

Objectives: To determine the various myths and misconceptions about Diabetes mellitus in the study area and To know the dietary patterns of type 2 diabetic patient.

Material and methods: Randomly selected malnourished patients with cancer were included in the study. The basic design of the study was 90 days intervention trial. Selected biochemical and anthropometric measurements were observed before and after intervention period. Student t-test was used to detect significant changes within each group.

Results: Significant improvement was observed with jackfruit seed flour soup mix intervention in anthropometric and biochemical parameters. Highly significant difference was in weight ($P < 0.000$) was observed. Total proteins ($P < 0.001$) and albumin ($P < 0.000$) were also observed significant results along with muscle strength and drastic reduction in urinary albumin was found.

Conclusion: Malnutrition is a huge issue in India owing to a lack of protein consumption; to combat the malnutrition, the jackfruit seed flour may be utilised as coeffective alternative protein sources for therapeutic benefits.

Keywords: Jackfruit seeds, Cancer patients, Proteins, Albumin, Soup mix, Intervention.

PP_S2_06



National Scientific Conclave on Interdisciplinary

Unveiling Post-Fever Retinitis.

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Abstract

A 43-year-old male presented with diminution of vision in BE since 2 months associated with headache. Patient had Dengue 2 and half months back. On examination, visual acuity RE- CFCF, LE: CF 1m. Anterior segment RE- cells 2+, flare 2+, posterior synechiae present; LE: normal. FUNDUS: RE- media hazy due to vitreous hemorrhage with occlusive vasculitis in superotemporal quadrant. LE- white superficial lesions with ill-defined margins suggestive of retinitis, with multiple hemorrhages along the superior and inferior arcade associated with signs of occlusive vasculitis along the superotemporal arcade.

On investigations, both Dengue NS1 antigen and Dengue PCR was positive. Haematological findings revealed thrombocytopenia with a platelet count of 0.98 Lakhs/cumm with a reduction in white blood cells (WBC 8.2/L). The erythrocyte sedimentation rate (ESR) was elevated at 32 mm/hour, suggesting an inflammatory response.

The patient was diagnosed with Bilateral Post-fever Retinitis and was treated with topical steroids and cycloplegics.

Conclusion- post-fever retinitis is a rare but significant condition that requires prompt diagnosis and management to prevent long-term visual impairment. Early detection and appropriate treatment are crucial for preventing long-term complications.



National Scientific Conclave on Interdisciplinary

PP_S2_07

Blinded By The Cure: A Case Of Ocular Ethambutol Toxicity

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Abstract

Background : Ethambutol (EMB) is an antibiotic commonly used to treat infections caused by Mycobacterium species, particularly Mycobacterium tuberculosis. A significant and potentially vision-threatening adverse effect of EMB is ethambutol-induced optic neuropathy (EON). The risk of EON is strongly dose-dependent and may develop within a short time after starting therapy. Most patients present with bilateral, painless, and symmetric loss of central visual acuity, along with dyschromatopsia and color vision defects.

Methods: A 34-year-old woman who is a known case of Koch's spine and on regular ATT for 6 months presented with diminution of vision of BE since 1 month. On examination BCVA is CF1M, N36 in BE , Colour vision impaired in BE. Anterior segment appears normal, Fundus appears normal. OCT BE RNFL thinning present inferiorly. Full field ERG showed normal scotopic and mild reduced photopic response in both eyes. Multifocal ERG shows normal responses in right eye and focal areas of reduced responses in left eye . VEP showed prolonged P100 latency over right and left eye.

Results: Patient was diagnosed with Ethambutol toxicity. She was started on Vitamin B injection on alternate days for one week , then once every week for 1 month and on follow up after 1 month her BCVA was CF 4M in RE , CF 3M in LE. She was advised to continue the injections every 14 days for 2 months.

Conclusion: Prevention of EON involves stratifying at risk patients, screening for visual loss monthly, and detecting EON prior to onset of clinically significant and irreversible visual changes and optic atrophy. Prompt discontinuation of ethambutol in EON is critical to prevent permanent visual loss and irreversible optic atrophy .

Keywords: Ethambutol, Optic neuropathy, ERG



National Scientific Conclave on Interdisciplinary

PP_S2_08

Vascular Crisis in the Retina: A Case of combined CRVO and CRAO

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Abstract

Background: Combined retinal vascular occlusion involving the vein and the artery is a rare event. Majority patients suffer from CRVO or CRAO. An ophthalmic artery occlusion (OAO) may lead to severe ischemia of the affected globe and associated ocular tissues. An OAO can be associated with life-threatening conditions and their incidence increases with age. Risk factors to highlight include cigarette smoking, hypertension, high serum lipid levels, coagulopathy, body mass index, diabetes and cardiac diseases including atrial fibrillation.

Methods: An 81-year-old female patient presented with complaints of loss of vision in LE since 4 days following H/O trauma in LE with stick 4 days back following which patient had watering, redness & pain. Visual acuity: RE - 6/18, LE - PL negative. IOP were RE: 16mmHg & LE:32mmHg by GAT. On examination, RE was WNL; LE had lid edema, conjunctival congestion & stromal edema in the cornea. Anterior Chamber had 2+ cells & 2+ flare. Pupil was 4mm sluggishly reactive to light. On fundoscopy, RE- WNL and LE -media was hazy due to corneal edema. Disc was grossly normal with dilated, tortuous vessels. There were multiple marked confluent splinter hemorrhages in all quadrants with small scattered retinal hemorrhages.

Results: Patient was diagnosed to have combined CRAO with CRVO & Traumatic . Blood Investigations revealed normal blood counts with normocytic normochromic blood picture. Renal functions & lipid profile were normal with serum homocysteine of 19.44µmol/l. ANA & CRP were negative. Patient was started on Anti-Glaucoma medications and Antibiotic+Steroid combination eye drops.

Conclusion: This case highlights the rare and complex occurrence of combined CRAO with CRVO in an elderly patient. While trauma to the eye may precipitate such vascular events, underlying risk factors, including hypertension, coagulopathy, and elevated serum homocysteine, may also play a role in the development of these conditions.

Key words: CRAO: Central retinal artery occlusion, CRVO: Central retinal vein occlusion, OAO: Ophthalmic artery occlusion, Combined vascular occlusion, Trauma



National Scientific Conclave on Interdisciplinary

PP_S2_09

Unravelling the link between Deregulated Metabolism and Cancer Stemness- Towards Understanding the Influence of Diabetes on Breast Cancer Progression

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Abstract

Background: Breast cancer (BC) poses a significant burden on the global health, and its association with diabetes mellitus (T2D) is increasingly recognised. T2D is linked to increased risk and aggressiveness of BC, which is quite concerning as both diseases are prevalent in India. However, the molecular mechanism behind their association is relatively unexplored. We aim to characterize the expression of putative markers for cancer stemness and deregulated metabolism, towards potentially classifying and targeting the high-risk population of BC-T2D patients. **Methods:** Breast cancer patients with and without diabetes were recruited for the study. Surgically resected tumour tissues and tissue microarray (TMA) slides were procured from KMIO based on Institutional ethics. Expression of stemness (Bmi1, Sox2) and metabolic (pACC, GLUT1) markers were assessed using immunocytochemistry (ICC) and immunohistochemistry (IHC) in patient-derived cells and tissue sections. Comparative analysis of marker expression between diabetic and non-diabetic BC patients was performed using statistical analysis. **Results:** Our analysis revealed a significant increase in the expression of pACC (AMPK signalling) in BC-diabetic patients. Notably, we also observed an upward trend in the expression of cancer stemness (Bmi1, Sox2) and metabolic markers (pACC, GLUT1) in BC patients with diabetes compared to the non-diabetic cohort. Furthermore, Kaplan-Meier survival analysis revealed that BC-diabetic cohort showed lower survival probability compared to their non-diabetic counterpart. **Conclusion:** An increased expression of Bmi1, Sox2, pACC and GLUT1 in the diabetic, BC cohort might indicate an aggressive disease. T2D could potentially alter the treatment response in BC patients by influencing cancer stemness and metabolism. We propose focusing on these markers for identifying and targeting high-risk, BC-diabetic cohort for better prognosis and treatment.

Key words: Breast cancer, diabetes, cancer stemness, altered metabolism, risk stratification



National Scientific Conclave on Interdisciplinary

PP_S2_10

Mitomycin-C: A Game Changer in Treating Ocular Surface Squamous Neoplasia

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Abstract

Background: Ocular surface squamous neoplasia (OSSN) encompasses a spectrum of squamous cell neoplasms involving the conjunctiva and cornea. Clinical presentations may include an ocular mass, significant irritation, conjunctival congestion, prominent feeder vessels, and decreased visual acuity. Diagnosis relies on histopathological evaluation of the excised lesion, supplemented by imaging to exclude infiltrative neoplasms. A high degree of clinical suspicion, timely diagnosis, careful management, and diligent postoperative follow-up after surgical excision are essential for achieving optimal outcomes.

Methods: A 63-year-old male presented to the outpatient department with complaints of a fleshy mass in the right eye for the past 4-5 months, accompanied by pain, redness, and a burning sensation. The patient had a prior history of right-eye pterygium excision performed six years ago. His uncorrected visual acuity was 6/36 in both eyes. Slit-lamp examination of the right eye revealed a leukoplakic, lobulated lesion measuring 2x2 mm on the temporal palpebral conjunctiva extending to cornea 1 mm with prominent feeder vessels. Examination of the left eye was unremarkable.

Results: Testing for HIV and HBsAg was negative. Wide margin Surgical excision of the lesion with cryotherapy was done, and HPE report revealed 1.2x0.2x0.1 cm tissue lined with stratified squamous epithelium. Following excision Topical Mitomycin-C 0.04mg was given four times daily for 2 weeks followed by 2 weeks off-treatment. One month later, we observed a transparent cornea and no signs of toxicity. Tumor resolution was observed for at least 3 months of follow-up.

Conclusion: SCC is a rare neoplasm and high degree of suspicion and early treatment has a very high success rate.

Key Words: Squamous cell neoplasia, Conjunctiva, Ocular surface squamous neoplasia, Mitomycin-C.



Effect of Yoga on Mental Well-Being and Heart Rate Variability of Adolescents in Post-pandemic Period – A Randomized Control Trial

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Abstract

Background: The COVID-19 pandemic has significantly impacted adolescents' mental health, increasing their vulnerability to stress and anxiety during this critical developmental phase, with potential long-term effects. Resilience is a learnable skill critical to adolescent development, fostering a positive sense of identity, self-efficacy, and overall well-being.

Integrated yoga, combining physical postures, breathing exercises, and meditation, has shown promise in improving both physical and mental health. Earlier researches demonstrated that yoga enhances resilience by promoting emotional regulation, stress management, and mental well-being in adolescents. This study investigates the effects of integrated yoga mental well-being and autonomic regulation in adolescents faced the loss or hospitalization of family members during the COVID-19 pandemic.

Methods: Sixty adolescent participants, were randomly allocated into two groups (1:1 ratio). one hour daily integrated Yoga has been taught to intervention group, six days a week for one month. The data was collected before and after the intervention using the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) and AD instruments HRV module ML818.

Results: The baseline demographic of the yoga and control groups were well-matched across gender and age. One-month Yoga demonstrates significant psychological benefits, particularly in enhancing mental well-being, and autonomic regulation. Its effects on anthropometric and blood pressure variables are not significant.

Conclusion: Yoga may help in promoting the mental well-being and stress of adolescents who have experienced the family member death or hospitalization during the COVID-19 pandemic. Thus, it may contribute to mitigating the long-term impacts of the pandemic on adolescents.

Key words: Yoga, Mental wellbeing, Adolescents, Pandemic



Sightless in the storm: the unseen consequences of typhoid on vision

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Abstract

Background: Optic Neuritis (ON) refers to inflammation or demyelination of the optic nerve, characterized by visual impairment, ocular pain and dyschromatopsia. This disease is rare in children and behaves very differently in children compared to adults. Para infectious optic neuritis is on a rise as a result of infectious aetiology developing days-week post infection. It occurs either due to direct invasion by pathogen or post infectious disease, presumably autoimmune-mediated demyelination of the optic nerve.

Methods: A 16 year old boy presented with sudden diminution of vision in RE since 3 days and LE since 2 days which was associated with pain on eye movements. He had history of typhoid fever 10 days back. On examination vision in both eyes were CFCF. Pupils were sluggishly reactive otherwise anterior segment appears normal. Fundus examination revealed disc edema in BE. OCT disc shows RNFL thickening superiorly and inferiorly. VEP revealed prolongation of P100 latency in BE (L>R). Contrast MRI brain showed B/L mildly tortuous optic nerves with increased diameter and diffuse intra-conal enhancement on post contrast study- suggestive of optic neuritis.

Results: Patient was diagnosed with post fever optic neuritis. He was started on IV Methyl prednisolone 1gm once daily for 5 days. His UCVA was improved to 6/9 in BE after 4th dose. Pupillary reactions became normal. He was then started on tapering doses of oral prednisolone. The patient was regularly followed and his UCVA was 6/6 in BE after 1 month.

Conclusion: This case underscores the value of considering optic neuritis in the differential diagnosis of pediatric patients presenting with vision loss following a febrile illness, and demonstrates the efficacy of early corticosteroid treatment. Paediatric ON is uncommon, but early recognition and prompt treatment with Intravenous steroids significantly improves the outcome.

Keywords: Optic Neuritis; typhoid fever



An unusual pathogen: *Serratia fonticola* as the causative agent of Fournier's gangrene

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Abstract

Background: *Serratia fonticola*, is a gram negative, motile bacterium from the family Enterobacteriaceae. It is present ubiquitously in the environment, and rarely is a cause of human diseases such as urinary tract infections, endocarditis, and skin and soft tissue infections. In this unique case study, we a case of Fournier's gangrene caused by *Serratia fonticola*.

Case report: A 73-year-old male with no history of diabetes or comorbidities, presented with symptoms of fever, chills, abdominal pain, burning micturition, and scrotal swelling. Laboratory tests indicated anemia, leukocytosis, and electrolyte imbalances. The ultrasonography revealed scrotal wall edema, air pockets, and prostatomegaly, leading to a diagnosis of phimosis with benign prostatic hyperplasia (BPH) and Fournier's gangrene. Aerobic culture of the pus samples grew *Serratia fonticola*, with concurrent urine cultures showing a growth of *Klebsiella pneumoniae*. Antimicrobial susceptibility testing of *Serratia fonticola* demonstrated susceptibility to Imipenem, Meropenem, Gentamicin, Minocycline, and Trimethoprim/sulfamethoxazole. The isolate was resistant to Piperacillin-tazobactam, Ceftazidime, Cefoperazone/sulbactam, Cefepime, Aztreonam, Ciprofloxacin, Amikacin, Chloramphenicol, Doxycycline, and Colistin. The patient underwent urgent surgical debridement and received broad-spectrum antibiotic, Meropenem targeting the infection, thereby resulting in clinical improvement. This case emphasizes the virulence of *S. fonticola* in severe infections like Fournier's gangrene, especially in non-immunocompromised individuals. The pathogen's resistance profile presents therapeutic challenges, necessitating aggressive surgical measures and reliance on limited antibiotic options such as carbapenems.

Conclusion: Although infrequently documented, *Serratia fonticola* should be recognized as a significant pathogen, particularly in cases of necrotizing infections requiring surgical intervention. The importance of microbiological identification and tailored antimicrobial therapy is underscored, with further research warranted to elucidate the clinical impact and resistance mechanisms of this emerging pathogen.



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UNDERGRADUATE STUDENTS



National Scientific Conclave on Interdisciplinary

PP_S1_01

Unveiling Superior Sagittal Sinus Thrombosis through Papilledema: A Case Report

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Abstract

Purpose: Cerebral venous thrombosis (CVT) is a rare but potentially life-threatening condition characterized by the formation of a blood clot in the cerebral veins, leading to increased intracranial pressure, brain edema, and ischemia. CVT is often underdiagnosed due to its nonspecific presentation such as headache, seizures to more severe neurological deficits, necessitating the need for early diagnosis and prompt treatment to prevent significant morbidity and mortality. This case report presents a case of papilledema secondary Superior Sagittal Sinus Thrombosis.

Materials/Methods: A 24-year-old male presented with throbbing headache and blurring of vision in the right eye for one month. The headache was intermittent, moderate to severe in intensity and associated with visual disturbances. Examination revealed visual acuity of 6/12 in the OD and 6/6 in OS with normal anterior segment, bilateral papilledema with no focal neurological deficit. CT brain showed filling defect in superior sagittal sinus. MRV revealed loss of normal flow void signal in the anterior portion of the superior sagittal venous sinus.

Result: Considering the above findings the possibility of CVT with bilateral Papilledema was established and managed with IV Mannitol (150 mL every 6 hours for 5 days), Heparin (5000 IU subcutaneously) for 3 days, followed by oral Acitrom anticoagulation therapy (3 mg, tapered to 1 mg), Optineuron (1 ampule in 100 mL of NS) and Homin (Mecobalamin, Pyridoxine, Folic acid) with close monitoring of renal function, serum electrolytes and bleeding manifestation during the course of the treatment. Follow-up assessments showed stabilization of the symptoms and gradual resolution of papilledema.

Conclusion: This case report emphasizes the need for early detection and involvement of the multidisciplinary team in the disease management. Superior sagittal sinus thrombosis, although rare, should be considered in the differential diagnoses of headache with visual disturbances, particularly in young individuals. Magnetic resonance venography aids in patients with suspected papilledema to help rule out the presence of cerebral venous sinus thrombosis.



When Autism Is not Autism: A Case Study on Diagnostic Accuracy in Early Childhood

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Abstract

Background: Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by deficits in social communication and the presence of restricted interests and repetitive behaviours^[1]. Early exposure to screen time before three years of age has been linked to long-term developmental risks, including socio-emotional, behavioural, and cognitive challenges^[2]. The toddlers learn to model their parental behaviour while growing up and decreased interaction with parents can restrict their developmental outcome and lead to autistic-like behaviour in them^[2].

Case Report: A 2.7-year-old boy was referred to our department by a paediatrician due to concerns about delayed language development and poor social interactions. The caregiver reported inadequate speech, with a vocabulary of only 10–15 words and one-word utterances. The child did not initiate communication and exhibited restlessness, hyperactivity, and frequent temper tantrums. Social skills were poor, attention span was less than one minute, and the child did not respond to name calls. Comprehensive diagnostic evaluation indicated mild autism, with receptive and expressive language ages of 1.4–1.6 years. However, a provisional diagnosis of Spoken Language Disorder was made despite the symptoms aligning with autism. Following five offline therapy sessions and ten teletherapy sessions, the child's vocabulary, mean length of utterance (2–3 words), and attention span (3–4 minutes) improved. The diagnosis was revised to Social Pragmatic Communication Disorder (SPCD).

Discussion: Case history revealed factors contributing to the child's autistic-like traits, including lack of stimulation at home, parental neglect, limited socialization, and being born during the COVID-19 pandemic. The caregiver's prior knowledge of autism may have influenced the high ISAA score. A family history of ADHD further supported considering a differential diagnosis. This case emphasizes the importance of thorough assessment to distinguish autism from conditions with overlapping symptoms, avoiding misdiagnosis or underdiagnosis.

Conclusion: The DSM-5 provides a framework for diagnosing autism but staying updated with current research ensures accurate diagnoses and effective treatment plans. Children who previously met criteria for PDD-NOS under the DSM-IV might now be diagnosed with SPCD^[1]

Keywords: Autism Spectrum Disorders, Autism Like Traits, Socio Pragmatic Communication Disorder, Differential Diagnosis



National Scientific Conclave on Interdisciplinary

PP_S1_03

Otosclerosis and Oral Contraceptives: Bridging Hormones and Hearing Health

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Abstract

Background: Otosclerosis, a progressive bone disorder of the otic capsule, leads to conductive or mixed hearing loss. Hormonal influences, particularly estrogen and progesterone, may accelerate its progression by altering bone remodelling. Oral contraceptives (OCs), containing these hormones, have been implicated in either inducing or worsening otosclerosis, though findings are inconsistent. Some studies also suggest reduced earwax buildup among OC users, indicating a potential hormonal link.

Case Presentation: A 25-year-old woman presented with reduced hearing sensitivity in her right ear over several months. She had been on oral contraceptives for the past month, with no history of ear infections or earwax buildup. Audiological evaluations, including PTA, immittance audiometry, and resonant frequency testing, were conducted.

Results: Pure tone audiometry revealed moderate conductive hearing loss in the right ear, with normal hearing in the left ear. Carhart's notch at 2000 Hz indicated otosclerosis. Immittance audiometry showed a Type B tympanogram in the right ear and Type A in the left. Resonant frequency testing indicated 700 Hz in the right ear, consistent with otosclerotic changes. Absence of earwax buildup supported findings linking OC use to reduced wax production.

Conclusion: This case suggests a potential connection between oral contraceptives and otosclerosis, highlighting hormonal impacts on auditory function. Reduced earwax buildup in OC users warrants further investigation.

Keywords: Otosclerosis, Hearing loss, oral contraceptives, Carhart's notch, Hormonal influence.



National Scientific Conclave on Interdisciplinary

PP_S1_04

A Comprehensive Approach to Vestibular Schwannoma : Audiological Insights

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Abstract

Background: Acoustic neuromas are benign tumors which arise from the Schwann cells of the eighth cranial nerve, usually within the internal auditory meatus, from either superior or inferior vestibular divisions (hence the more accurate and recently adopted term ‘vestibular schwannoma’). This condition can cause significant hearing loss, balance disturbance, and other neurological symptoms. Accurate diagnosis and management of this condition require a comprehensive evaluation of auditory and vestibular function. **Case Presentation:** The 37-year old patient presented with reduced hearing sensitivity and tinnitus in the left ear. The test battery including Pure tone audiometry (PTA), Impedance Audiometry, Speech Audiometry, Auditory brainstem responses (ABR), Oto-acoustic emission (OAE), Special tests including Short increment sensitivity index (SISI), Alternating binaural loudness balance (ABLB), Tone decay test were conducted and Magnetic Resonance Imaging (MRI) scan suggested. **Results:** PTA indicated Normal hearing in the right ear and Profound hearing loss in the left ear. Immittance testing showed Type A tympanograms bilaterally. Presence of OAEs in both ears, indicating normal cochlear function. No clear and replicable peak V at 90 dBnHL at 11.1 & 90.1 repetition rates, suggesting a retrocochlear lesion. Special tests including ABLB, SISI were normal, indicated cochlea is functioning normal, and tone decay were abnormal suggest the presence of retrocochlear pathology. MRI revealed an enhancing small mass lesion located within the left internal auditory canal measuring ~ 6.5 x 4.0 x 5.0 mm showing significant post contrast enhancement. Initially Auditory Neuropathy Spectrum Disorder was suspected, but subsequent radiological evaluation revealed a vestibular schwannoma. **Conclusion:** Comprehensive audiological assessment, supplemented by MRI findings, facilitated the diagnosis of vestibular schwannoma, despite the lack of characteristic vestibular symptoms, and enabled accurate differentiation between overlapping conditions. MRI played a crucial role in distinguishing ANSD and vestibular schwannoma.

Keywords: Acoustic Neuroma, Vestibular Schwannoma, Hearing Loss, Tinnitus, Balance Disturbance, Neurological Symptoms.



National Scientific Conclave on Interdisciplinary

PP_S1_05

The Diagnostic Odyssey of Auditory Neuropathy Spectrum Disorder: A Case study

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and Research, Tamaka, Kolar – 563101, Karnataka, India

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Abstract

Background: Auditory Neuropathy Spectrum Disorder (ANSD) is a hearing disorder where sound transmission from the inner ear to the brain is impaired despite normal outer hair cell function. The incidence of ANSD in children is estimated to be around 1-3 children per 10,000 births, roughly affects 1 in 10 children with sensorineural hearing loss; studies have reported varying prevalence rates between 0.23% and 15% depending on the population. **Case Presentation:** A 5-month-old infant with history of birth asphyxia had developmental delays in speech, language, motor milestones, and responsiveness to sounds. Audiological tests like Immittance Audiometry, Brainstem Evoked Auditory Response (BERA), and Otoacoustic Emissions (OAE), was conducted. Newborn hearing screening (NBHS) was also performed prior to the diagnostic evaluation, which included OAE and ABR (Automatic Auditory Brainstem Response). The speech-language evaluation, using the Assessment Checklist of Speech – Language Skills, assessed the child's speech and language development across various domains, including Receptive and Expressive language. **Results:** NBHS indicated the presence of OAE in the right ear and absent in the left ear with ABR absent in both ears. The Audiological findings revealed Type As tympanograms in both ears, Robust OAE in the right and absent OAE in the left ear. BERA findings showed the presence of Cochlear Microphonics in the right ear, while no replicable V peak was observed in the left ear. The provisional diagnosis was (?) ANSD in right ear and Severe – Profound hearing loss in left ear. Speech Language Evaluation Results indicated that both Receptive and Expressive Language Age were 0.0 – 0.3 years. **Conclusion :** This case highlights that newborn hearing screening serves as a vital first step in identifying infants at risk of hearing loss. The combination of NBHS and comprehensive audiological evaluation is vital for early identification and management of hearing loss, leading to accurate diagnosis and intervention.

Key Words: Newborn Hearing Screening, Auditory Neuropathy, Cochlear Microphonics, Hearing loss.



National Scientific Conclave on Interdisciplinary

PP_S1_06

A Case of Atypical Audiological Findings: The Role of a Test Battery and Multidisciplinary Approach in Diagnosing Retro Cochlear Pathology

Bharath Ravi¹, Jineesha Jipson^{1*}, Dr. Santhosha Kulal², M Abhijith³

1&3- Assistant Professor of Audiology, 1- B.ASLP Student, Department of Speech Pathology and Audiology, 2- Assistant Professor, Department of Radiation Oncology, SDUAHER, Kolar.*

Abstract

Introduction: Retro cochlear pathology(RCP) as the origin of hearing loss is suspected when there is discrepancy between a normal tone audiogram and an abnormal speech scores. Retro cochlear hearing disorders are rare and cannot be differentiated from sensory losses by clinical symptoms alone. Here we present a case of Cerebellopontine angle tumour with atypical audiological findings compressing the brainstem structures affects the speech perception. **Case description:** A 36-year-old male presented with complaint of reduced hearing sensitivity and tinnitus in the right ear. Comprehensive audiological evaluation was conducted, including pure-tone audiometry, Immittance testing. Physiological assessments, including otoacoustic emissions (OAEs) and auditory brainstem response (ABR), However, Magnetic resonance imaging (MRI) was suggested to distinguish underlying pathology. **Results:** Pure-tone audiometry, revealed mild hearing loss consistent with retrocochlear pathology, and poor speech recognition scores. Immittance testing showed a Type 'A' tympanogram with absent reflexes. Physiological assessments, including otoacoustic emissions (OAEs) and auditory brainstem response (ABR), revealed present OAEs and absent ABR, suggesting Auditory Neuropathy Spectrum Disorder (ANSO). However, subsequent magnetic resonance imaging (MRI) revealed a cerebellopontine angle tumour, indicating a distinct underlying pathology. **Conclusion:** This case highlights the diagnostic complexity when atypical audiological findings are present. While the audiological tests initially pointed towards ANSO, the patient's poor speech recognition, absent acoustic reflexes, and the pattern of audiological results warranted further investigation. The MRI ultimately provided the correct diagnosis, demonstrating that even when certain audiological findings may align with one diagnosis, other pathologies must be considered comprehensive diagnostic approach is crucial in identifying the underlying cause of auditory symptoms. This demonstrates that atypical audiological findings should prompt careful and thorough evaluation, as they may sometimes obscure the underlying pathology.

Keywords: Retrocochlear pathology (RCP), Hearing loss, Tinnitus, Cerebellopontine angle tumor.



National Scientific Conclave on Interdisciplinary

PP_S1_07

The Unseen Menace: Why Retinal Hemorrhages Can't Be Ignored

Yadlapalli Sejal Sai Sree , Dr Karthik S , Dr Sangeetha
Sri Devaraj Urs Medical College, kolar Karnataka, India PIN- 563101

Abstract

Introduction: Understanding ocular involvement in leukemia holds significant importance as the eye uniquely offers a direct observation of leukemic infiltration in nerves and blood vessels, underscoring its pivotal role in diagnosis and management.

Abstract: A 35-year-old female presented with bilateral blurred vision over the past 3 days. A comprehensive ocular examination revealed visual acuity in the right eye (RE) at 6/18 and in the left eye (LE) at 6/36, with a normal anterior segment. Pupil size in both eyes (BE) was 3mm with brisk light reflexes. Fundoscopic examination of both eyes revealed clear media, normal cup-to-disc ratio, along with flame-shaped hemorrhages and Roth spots. Subsequent blood investigations revealed Hb-5.2 mg/dl, RBC-1.92 mil/cumm, and WBC-1.77 thousands/cumm, suggestive of pancytopenia. Further evaluation led to the diagnosis of Acute Myeloid Leukemia (AML). Ocular manifestations in leukemia can arise from direct infiltration of leukemic cells into ocular structures or secondary signs related to central nervous system involvement, such as papilledema, cranial nerve deficits, and retinal vascular abnormalities.

Conclusion: This case underscores the significance of promptly addressing retinal hemorrhages, as they can potentially signify underlying systemic conditions such as leukemia, and thus highlighting the critical importance of early detection and intervention."



National Scientific Conclave on Interdisciplinary

PP_S1_08

Varicella Zooster With Bilateral Orbital Cellulitis – A Rare Case Report

Yadlapalli Sejal Sai Sree , Dr Karthik S , Dr Sangeetha
Sri Devaraj Urs Medical College, kolar Karnataka, India PIN- 563101

Abstract

Background: Varicella zoster virus (VZV) belongs to a-Herpesviridae family which causes a chickenpox during primary infection and then, latent infection in host neural ganglia¹. The highest prevalence is seen in the 4–10-year-old age group¹ overall complication rate within 30 days after the onset of primary varicella of 205 per 10,000 cases.

Case report: A 5-year-old female child was brought with history of fever with rash over face and trunk since 5 days and swelling of both the eyes since 2 days. On examination: child was sick looking, multiple vesicular rashes was present over the face and trunk. There was bilateral eyelid edema, conjunctiva congestion, and an adherent yellowish membrane over the palpebral and bulbar conjunctiva. The cornea was also completely covered by this membrane, which could neither be washed off nor peeled off with forceps. There was also severe conjunctival. Ophthalmologist opinion was taken. She was diagnosed with bilateral orbital cellulitis secondary to varicella zooster infection. Culture of the exudates isolated staphylococcus aureus and as per sensitivity intravenous antibiotics were started and child began to respond well.

Conclusion: Early detection and prompt treatment of complications can reduce the morbidity and mortality in children infected with varicella. A single dose of the vaccine has been found to be 84.5% effective against all varicella and 100% effective against severe varicella

Key words : Orbital cellulitis, Varicella zoster,



National Scientific Conclave on Interdisciplinary

PP_S1_09

Audit of Prescriptions of Medicine Outpatient Department In A Tertiary Care Hospital

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Abstract

Background: Prescription audit is an essential component of healthcare quality assurance aimed at evaluating prescriptions to ensure safety, efficacy and cost-effectiveness. Prescribers in the department consist of senior and junior faculty. The trained junior faculty often pursue higher studies or find careers suitable to their families and cultural backgrounds. Hence the incoming new faculty have to be trained. So regular audits of prescriptions will help us to relate the outcome to the training imparted and improve quality. WHO Emphasizes prescription audits as a critical tool for monitoring and improving medical care.

Objective: To audit the prescriptions from the General Medicine outpatient department using prescription audit indicators

Methodology: A cross-sectional study was conducted in the General Medicine outpatient department of a tertiary care hospital over 10 days in January 2025. A total of 188 prescriptions were randomly sampled. The details were entered in the Google form prepared based on the prescription audit guidelines. The indicators were analyzed and represented as percentages.

Results: Eighty-one percent (81%) of the prescriptions were written legibly and in upper case with diagnosis mentioned in 63%. The generic name was written in 62% with a dosage schedule in 90%. Less than four medications were written in 63% of prescriptions with parenteral formulations accounting for 37%. Antibiotics were prescribed in 71% of prescriptions. All the medications prescribed were available in our hospital pharmacy. 93% of prescriptions were duly signed by the prescribers.

Conclusion: The consultants to be motivated to write generic names of medications and duly sign all the prescriptions.

Keywords: Prescription audit, Generic names, Polypharmacy, General Medicine



Extraction, Purification and Characterization of Polysaccharides from *Zephyranthes citrina*

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Abstract

Background: *Zephyranthes citrina* (Yellow Rain Lily) is a bulbous herb native to tropical and subtropical America, now widely cultivated as an ornamental plant, including in India. Beyond its aesthetic appeal, *Zephyranthes citrina* is a rich source of polysaccharides and alkaloids, contributing to its pharmacological potential. Polysaccharides from *Z. citrina* exhibit significant biological activities, including antioxidant and anti-inflammatory effects. With its rich phytochemical profile, *Z. citrina* shows great potential for pharmaceutical applications and the development of natural health products and holds great potential for pharmaceutical applications. **Methods:** Polysaccharides was extracted from the tuber and purified using dialysis membrane. Characterization was done by conducting FTIR analysis and HPLC using C18 column with an optimized mobile phase and detection at 254 nm/280 nm. Antioxidant activity of extracted Polysaccharides and Residues was evaluated using DPPH assay, anti-inflammatory activity through the protein denaturation assay and anti-coagulant activity was also performed. Proximate analysis of the crude extract was carried out to determine the moisture, protein, fiber, fat, and sugar content. **Results:** HPLC analysis identified key polysaccharides, including heparin (2.68 mg/mL), hemicellulose (2.51 mg/mL), and starch (1.67 mg/mL). FTIR confirmed their presence with peaks at 1031.28 cm⁻¹ in crude extract and 1082.78 cm⁻¹ in residues. Proximate analysis revealed the highest sugar and lowest fiber content in the crude extract. Antioxidant assays showed IC₅₀ values of 56.80 µg/mL for polysaccharides and 57.08 µg/mL for residues in DPPH assay. Polysaccharides exhibited higher anti-inflammatory activity and no Anti-coagulant activity was seen in both Polysaccharides and Residues. **Conclusion:** Polysaccharides from *Zephyranthes citrina* confirmed the presence of polysaccharides through FTIR and HPLC. The Biochemical assays revealed strong antioxidant and anti-inflammatory properties but no anticoagulant property was observed. These findings highlight their potential for pharmaceutical applications.

Keywords: *Zephyranthes citrina*, polysaccharides, antioxidant activity, anti-inflammatory properties, HPLC, FTIR, pharmaceutical potential, bioactive compounds, natural health products.



National Scientific Conclave on Interdisciplinary

Revolutionizing Health Outcomes through collaborative efforts
across Basic, Allied Health & Medical Sciences

Conference Report

Day 1 – 4th February 2025

Theme: Diabetes

National Scientific Conclave on Interdisciplinary

Event: Invited scientific talk - 1

Time: 9.00 AM to 9.45 AM

Speaker: Dr. M Balasubramanyam, ICMR Emeritus Scientist & Professor, Madras Diabetic Research Foundation, Chennai.

Topic: Omics advancements and the road map of precision medicine in diabetes

Chairpersons:

Dr. Prabhakar K

Principal & Dean

SDUMC, SDUAHER

Dr. Sarala N

Professor

Dept. of Pharmacology

SDUMC



The speaker highlighted the following points:

- The burden of diabetes around the world, mainly in India. The statistics of the incidences, age group and regional populations.
- The speaker emphasized recent advancements in diabetes treatment and the importance of adhering to dietary precautions.
- The talk primarily focused on precision medicine in diabetes and advancements driven by omics technologies.

National Scientific Conclave on Interdisciplinary

Event: Invited scientific talk - 2

Time: 9.45 AM to 10.30 AM

Speaker: Dr. Sindhu S, Senior Dietician, Ernakulam Medical Centre, Kochi, Kerala.

Topic: Nutrition dynamics for the prevention and management of diabetes

Chairpersons:

Dr. Vidya Sagar

Professor & Head

Dept. of General Medicine

SDUMC, SDUAHER

Dr. Madhavi Reddy M

Professor

Dept. of Clinical Nutrition & Dietetics

SDUAHER



The speaker highlighted the following points:

- The global incidence of diabetes and its prevalence across various states in India.
- The key factors influencing diabetes, along with survey data from different sectors.
- The importance of diabetes and dietary knowledge, noting a lack of awareness in the population.
- The talk addressed gestational diabetes in mothers and children, explaining its impact and intergenerational transmission.
- The information on standard exercise and dietary guidelines at both global and national levels.

National Scientific Conclave on Interdisciplinary

Event: Invited scientific talk - 3

Time: 10.30 AM to 11.15 AM

Speaker: Dr. V Vettriselvi, Professor, Dept. of Human Genetics, SRIHER, Chennai.

Topic: Recent advancements in the molecular genetics of diabetes

Chairpersons:

Dr. Venkateswarlu Raavi
Assistant Professor
Dept. of Cell Biology & Molecular Genetics
SDUAHER

Dr. Komal Sanjay Jog
Assistant Professor
Dept. of General Medicine
SDUMC



The speaker highlighted the following points:

- The global burden of diabetes, with a focus on hereditary diabetes, the main types (Type 1 and Type 2), and the genes responsible for Type 2 diabetes.
- The speaker presented and discussed their project findings from a three-generation GWAS analysis, identifying various genes and SNPs associated with diabetes.
- The speaker emphasized that genetic changes can impact future generations.

National Scientific Conclave on Interdisciplinary

Event: Inaugural function

Time: 11.15 AM to 12.00 Noon

The following dignitaries presided over the function:

Chief Guest:

Dr. Sundararaman Swaminathan

Department of Nephrology, Indian Institute of Science, Bangalore

Guests of Honour:

- Sri. G H Nagaraja, Hon'ble Chancellor, SDUAHER
- Sri J Rajendra, Vice President, SDUET
- Sri K G Hanumantha Raju, Secretary, SDUET
- Sri. Rajesh N Jagadale, Trustee, SDUET

Presided by:

- Dr. D V L N Prasad, Chief Administrative Officer, SDUAHER
- Dr. Vengamma B, Hon'ble Vice Chancellor, SDUAHER
- Dr. C Muninarayana, Registrar, SDUAHER
- Dr. Prabhakar K, Principal, SDUMC and Dean, FoM, SDUAHER
- Dr. Aravind Natarajan, Dean, FAH&BS, SDUAHER
- Dr. Krishnappa J, Medical Superintendent, RLJH & RC, SDUMC, SDUAHER
- Dr. Vijayalakshmi G, Principal, Sri Devraj Urs College of Nursing, SDUAHER
- Dr. Ashok Kumar B S, Principal, R L Jalappa College of Pharmacy, SDUAHER
- Dr. Kalyani R, Organizing Chairperson, NSC and Director, R&D Cell, SDUAHER
- Dr. Venkateswarlu Raavi, Organizing Secretary, NSC 2025 and Deputy Co-ordinator, R&D Cell, SDUAHER





National Scientific Conclave on Interdisciplinary

- The inaugural function started with an Invocation
- This was followed by lamp lighting by dignitaries
- The LED wall with an upgraded digital sound system was inaugurated by Sri. G H Nagaraja, Hon'ble Chancellor of SDUAHER.
- The preamble of the Conference was given by Dr. Prabhakar K, Dean, FoM, SDUAHER
- Dr. D V L N Prasad, Registrar of the Academy welcomed all the dignitaries on the Diaz
- Dr. C Muninarayana, Registrar, SDUAHER introduced the chief guest.
- Dr. Dr. Sundararaman Swaminathan, the chief guest addressed the gathering by highlighting the importance of Interdisciplinary research.
- All the dignitaries released the Souvenir of the National Scientific Conclave - 2025
- Dr. B Vengamma, Hon'ble Vice Chancellor, SDUAHER addressed the gathering
- Dr. Kalyani R, Director, R & D Cell, SDUAHER gave the vote of thanks

National Scientific Conclave on Interdisciplinary

Event: Invited Scientific Talk - 4

Time: 12.00 Noon to 1.00 PM

Speaker: Dr. Prasanna Kumar, Diabetologist, Bangalore

Topic: Current holistic approach in the treatment of Diabetes

Chairpersons:

Dr. Sudha Reddy
Professor & Head
Dept. of Pediatrics
SDUAHER

Dr. Krishnappa J
Medical Superintendent
RL Jalappa Hospital and Research Centre, SDUMC, SDUAHER

The speaker highlighted the following points:

- Integrative Treatment Model – A blend of allopathy, yoga, Ayurveda, and naturopathy for comprehensive diabetes care.
- Role of Lifestyle Modifications – Importance of diet, exercise, stress management, and sleep hygiene in glycemic control.
- Mind-Body Connection – How yoga, meditation, and pranayama enhance insulin sensitivity and regulate stress-induced blood sugar fluctuations.
- Nutritional Science – The significance of low-glycemic, fiber-rich diets, and the role of herbal remedies in managing blood glucose levels.
- Emerging Research & Clinical Evidence – Scientific validation of holistic therapies and their efficacy in improving diabetes outcomes.
- Patient-Centric Approach – Personalizing treatment based on an individual's genetics, lifestyle, and comorbidities for sustainable health benefits.



National Scientific Conclave on Interdisciplinary

Scientific free paper presentations

With 80 selected abstracts for presentation, five parallel sessions were conducted - four for oral presentations and one for poster presentations. Of the 80 presenters, 77 attended (Oral_PhD: 12; Oral_Faculty: 14; Oral_PG: 19; Poster: 32). The details are as follows:

Hall 1: Oral presentation from PhD Category

Time: 2.00 PM to 5.15 PM

Venue: R L Jalappa Silver Jubilee Auditorium

Judges:

Dr. Suresh T N
Professor
Dept. of Pathology
SDUAHER

Dr. Anjali Suresh
Professor
Dept. of Physiotherapy
SDUAHER



Total of 12 presenters presented their original research articles. Each presenter had a time limit of 7 min (for presentation) and 3 min (for discussion).

National Scientific Conclave on Interdisciplinary

Hall 2: Oral presentation from faculty category

Time: 2.00 PM to 5.15 PM

Venue: Dr. B C Roy Lecture Hall, First floor, Library building

Judges:

Dr. Prabhavathi K
Professor & Head
Dept. of Biochemistry
SDUMC, SDUAHER

Dr. Sarulatha H
Professor
Dept. of Physiotherapy
SDUAHER



Total of 14 presenters presented their original research article. Each presenter had a time limit of 7 min (for presentation) and 3 min (for discussion).



National Scientific Conclave on Interdisciplinary

Hall 3 & 4: Oral presentation from Post-Graduate Category

Time: 2.00 PM to 4.15 PM

Venue: Skill Lab, 3rd Floor, CARE Building

Judges:

Dr. Prakash Dave
Professor, Dept. of Surgery
SDUAHER

Dr. Ashok Kumar BS
Principal
RL Jalappa College of Pharmacy, SDUAHER

Dr. Ashwini Shetty
Professor, Department of Physiology
SDUMC,

Dr. Parimala S
Associate Professor
Dept of Microbiology
SDUMC,

Total of 19 presenters presented their original research articles. Each presenter had a time limit of 5 min (for presentation) and 2 min (for discussion).



National Scientific Conclave on Interdisciplinary

Event: Poster Presentation for UG, PG, PhD and Faculty

Time: 2.00 PM to 5.15 PM

Venue: 2nd Floor, Central Library, SDUAHER

Judges:

Dr Arvind Natarajan
Dean FAH&BS, SDUAHER

Dr. G. Vijaylakshmi
Principal, Sri Devaraj Urs College of Nursing, SDUAHER

Dr. Ruth Sneha
Associate Professor, Dept. of Psychiatry, SDUAHER

Dr. Lavanya Subhashini
Vice Principal, Sri Devaraj Urs College of Nursing, SDUAHER



Total of 32 presenters presented their original research article/ case report in Poster format. Each presenter had a time limit of 5 min (for presentation) and 2 min (for Question & Answer).



National Scientific Conclave on Interdisciplinary

Day 2 – 5th February 2025

Theme: Cancer

Event: Invited Scientific talk - 1

Time: 9:20 AM to 10:30 AM

Speaker: Dr. Anita Nath, Scientist F, ICMR – National Centre for Disease Informatics and Research, Bangalore

Topic: Global burden of cancer

Chairpersons:

Dr. Muninarayana. C
Registrar,
Professor, Department of Community Medicine
SDUAHER

Dr. S M Azeem Mohiyuddin
Professor & HoD,
Department of Otorhinolaryngology
SDUMC

The speaker highlighted some of the following points:

- Cancer poses a major public health and economic challenge globally, accounting for 16.8% of deaths worldwide and 30.3% of premature non-communicable disease (NCD) deaths in people aged 30–69 years.
- The cancer burden in India differs significantly by gender and region, with lung, mouth, and prostate cancers leading among males, while breast and cervical cancers dominate among females.
- Future projections indicate a sharp rise in cancer cases, with low and medium Human Development Index (HDI) regions, including India, facing the steepest relative increases by 2050.
- Also, the speaker highlighted that rising burden requires targeted cancer control measures, focusing on prevention, early detection, and management.





National Scientific Conclave on Interdisciplinary

Event: Invited Scientific talk - 2

Time: 10:30 AM to 10:55 AM

Speaker: Dr. Tapas K. Kundu, Professor and Head, Molecular Biology and Genetics Unit,
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore

Topic: Molecular Genetic techniques in the management of cancer

Chairpersons:

Dr. Gopinath K S
Director & Professor
Department of Surgical Oncology
SDUMC

Dr. Kalyani R
Professor & Former HOD
Dept. of Pathology, SDUMC



The speaker highlighted some of the following points:

- An overview of oral cancer, potential therapeutic approaches, recent advancements, and strategies for targeting the brain.
- The FR-targeting strategy and the development of sigma receptor (SR)-targeting anti-brain tumor agents, CH8 and CH8-CRM.

National Scientific Conclave on Interdisciplinary

Event: Invited Scientific talk - 3

Time: 10:55 AM to 11:30 AM

Speaker: Dr. B.A. Krishna, Consultant, Department of Nuclear Medicine & PET Imaging,
Lilavathi Hospital and Research Centre, Mumbai

Topic: Advances in imaging technology in cancer diagnosis

Chairpersons:

Dr. Manjunath
Professor, Department of Radiation Oncology, SDUMC

Dr. Lokanath
Professor, Surgical Oncology, SDUMC



The

speaker highlighted some of the following points:

- Molecular imaging, administration of an imaging agent, and imaging the tissues.
- These scanners have high sensitivity and high spatial, contrast, and temporal resolution and the advent of PET scanners (Positron Emission Tomography) has revolutionized the imaging of entire body in a very short time.
- Also, the speaker highlighted new molecular imaging innovations which have impacted oncological practice immensely. These techniques have given birth to a new approach in cancer treatment namely THERANOSTICS which will play a major role in the next decade as new targets for different types of cancers emerge.
- The practice of oncology will move from non-specific therapies to highly targeted therapies and future is very exciting.



National Scientific Conclave on Interdisciplinary

Event: Invited Scientific talk - 4

Time: 11.30 AM -12.15 PM

Speaker: Dr Ayesha Ismail, Scientist F & Head Endocrinology, National Institute of Nutrition, Hyderabad

Topic: Role of nutrition in the prevention and management of cancer

Chairpersons:

Dr. Ashwathappa
Professor and HoD,
Department of Surgical Oncology,
SDUMC

Dr Shivakumara CS
Assistant Professor and I/c Head,
Clinical Nutrition and Dietetics, SDUAHER



The speaker highlighted some of the following points:

- The session emphasized the role of diet in cancer prevention and the non-classical functions of Vitamin D.
- Recent studies indicate that Vitamin D modulates molecular pathways in cardiovascular diseases (CVDs) and other chronic conditions.
- Beyond bone health, Vitamin D impacts metabolic and immune pathways.
- Future research should focus on personalized nutrition approaches for cancer prevention.

National Scientific Conclave on Interdisciplinary

Event: Invited Scientific talk - 5

Time: 12.15 PM - 1.00 PM

Speaker: Dr. Vadiraja H S, Research Officer & Nodal Officer, Central Research Institute of Yoga & Naturopathy (CRIYN), Mandya

Topic: Yoga and cancer management

Chairpersons:

Dr. Dayanand CD
Professor and HoD,
Department of Allied Health Sciences,
SDUAHER

Dr Ashwin Bilagi
Assistant Professor and I/c Head,
Integrative Medicine,
SDUAHER



The speaker highlighted some of the following points:

- Yoga plays a significant role in pain management and psychological well-being.
- It has proven benefits in managing stress-related immune disorders.
- Integrating yoga with conventional therapies can enhance patient outcomes.
- Further clinical research is needed to establish standardized protocols for yoga-based interventions.

National Scientific Conclave on Interdisciplinary

Event: Invited scientific talk - 6

Time: 2.00 PM - 2.45 PM

Speaker: Dr. Raghavendra R, Lead Consultant, Pain & Palliative Medicine, Aster Hospitals, Bangalore

Topic: Advances in palliative care in cancer management

Chairpersons:

Dr Arun HS
Professor,
Department of Orthopedics,
SDUMC

Dr Vimarshitha P
Associate Professor,
Dept. of Obstetrics and Gynecology,
SDUMC



The speaker highlighted some of the following points:

- Chronic pain management requires a multidisciplinary approach, integrating pharmacological and non-pharmacological therapies.
- Early palliative care interventions improve quality of life for terminally ill patients.
- There is a need for greater awareness and accessibility of specialized pain management services.

National Scientific Conclave on Interdisciplinary

Event: Valedictory function

Time: 3.00 PM to 4.30 PM

The Valedictory function was presided over by

1. Prof. Dr. B. Vengamma, Honourable Vice – Chancellor, SDUAHER.
2. Dr. S. Chandrashekar Shetty, Former Advisor, SDUAHER.
3. Dr. Muninarayana C, Registrar, SDUAHER
4. Dr. Prabhakar K, Dean, Faculty of Medicine, SDUAHER and Principal, SDUMC.
5. Dr. Aravind Natarajan, Dean, Faculty of Allied Health and Basic Sciences, SDUAHER
6. Dr. Asok Kumar B S, Principal, R L Jalappa College of Pharmacy, SDUAHER
7. Dr. Kalyani. R, Organizing Chairperson, NSC 2025 and Director, Research and Development Cell, SDUAHER.
8. Dr. S. M. Azeem Mohiyudhin, Organizing Co-Chairperson, NSC 2025, Former Director, Research and Development Cell, SDUAHER.
9. Dr. Venkateswarlu Raavi, Organizing secretary - NSC 2025, Deputy co-ordinator, Research and Development Cell, SDUAHER.



Dr. Ashwini N S, welcomed the gathering

- Dr. Kalyani R, Director R & D cell presented the conference report
- Dr. S. Chandrashekar Shetty, Former Advisor, SDUAHER, Dr. B Vengamma, Honourable Vice – Chancellor and Dr. Prabhakar K, Principal, SDUMC addressed the gathering
- Prizes were distributed to the winners of the oral and poster presentations. The details are tabulated below:

National Scientific Conclave on Interdisciplinary

Poster Presentations

UG category

	Name	Institution	Title
1st prize	Yadlapalli Sejal Sai Sree	Sri Devaraj Urs Medical College	Varicella Zoster with Bilateral Orbital Cellulitis - A Rare Case Report
2nd prize	Neeraj C Rajesh	Department Of Speech Pathology and Audiology, SDUAHER	The Diagnostic Odyssey of Auditory Neuropathy Spectrum Disorder: A Case Study
3rd prize	Dr. Prashanth V	Sri Devaraj Urs Medical College	Unveiling Superior Sagittal Sinus Thrombosis Through Papilledema: A Case Report
Consolation	Keerthana S K	Sir M Visvesvaraya Institute of Technology	Extraction, Purification and Characterization of Polysaccharides from Zephyranthes citrina



Others (PG, PhD and Faculty)

	Name	Institution	Title
1st prize	Akshay Kirthan J.P	Dept. Of Biochemistry, JN Medical College, KLE Academy of Higher Education and Research	The Impact of Oral Iron Supplementation on Maternal Iron Indices Among Pregnant Women with Moderate Iron Deficiency Anemia - A Prospective Cohort Study.
2nd prize	Shivaani Srinivasan	Department Of Developmental Biology and Genetics, IISc- Bengaluru	Unravelling The Link Between Deregulated Metabolism and Cancer Stemness-Towards Understanding the Influence of Diabetes on Breast Cancer Progression
3rd prize	Dr. Vishaka Shankar	Paediatrics, SDUMC	Congenital Hyperinsulinemic Hypoglycemia
Consolation	Sahana G Iyer	Indian Institute of Science, Bengaluru	Identifying Biomarkers of Diabetes-Associated Breast Cancer Initiation and Progression

National Scientific Conclave on Interdisciplinary

Oral Presentations

PG category

	Name	Institution	Title
1st prize	Dr Nakkana Rachana	Sri Devaraj Urs Medical College	Gestational Type 2 Diabetes Mellitus and Its Influence on Retinopathy of Prematurity.
2nd prize	Dr Srilekha R Mathapati	Sri Devaraj Urs Medical College	Eyeing The Details: Association Between Macular Thickness, Axial Length in Myopic Eyes.
3rd prize	Lokireddy Venkata Sandeep Reddy	Katurba Medical College, Mangalore, MAHE	Quality Of Life Among Adult Type 2 Diabetics on Insulin in Select Tertiary Care Hospitals
Consolation	Kancharla Varun	General Medicine, K.S. Hegde Medical Academy	Study Of Upper Gi Endoscopy and Helicobacter Pylori Infection Among Type 2 Diabetes Mellitus Patients with Dyspepsia
Consolation	Ms. Reshma B	Sri Devaraj Urs College of Nursing Affiliated With RGUHS	Paramedical Staff Knowledge Regarding Revised Cardiopulmonary Resuscitation Guidelines Working at Rural Tertiary Care Medical Teaching Hospital Kolar, Karnataka.



PhD category

	Name	Institution	Title
1st prize	Medha Karnik S R	CEMR Laboratory, Department of Biochemistry, JSS Medical College, JSS AHER	Inverse Association of Lactobacillus and Bifidobacterium Species with Inflammatory Microenvironment in Cervical Cancer
2nd prize	Chaithanya G B	CEMR, Department of Biochemistry, JSS Medical College, JSSAHER	Co-Targeting Key Oncogenic Signalling Cascades Regulating Breast Cancer Development Using Vitamin-D And Anti-Hyperglycemic Agent Phenformin
3rd prize	Rimshia Naaz	Department of Biochemistry, JSS Medical College, JSSAHER	Intraperitoneal Administration of Vitamin D Mitigated the Cognitive Impairment Induced Due to Diabetes by Modulating Pi3k/Akt Signaling in C57bl6 Mice.
Consolation	Dr. Geetha S	Physiology, SDUMC	Behavioral Outcomes of Enriched Housing in MPTP-Induced Parkinson's Disease Mouse Model

National Scientific Conclave on Interdisciplinary



Faculty category

	Name	Institution	Title
1st prize	Vidhyashree K	Department of Pathology, St. John's Medical College	Role of Choline Transporter Immunostain in the Diagnosis of Hirschsprung Disease on Formalin Fixed Rectal Mucosal Biopsies
2nd prize	Dr. V. Priyanka	Biotechnology/ Anna University	Mir-21 Exacerbates Foam Cell Formation and Regulates Early Atherogenesis in Periodontitis-Induced Atherosclerosis.
3rd prize	Dr. Ram Mohan Ram Kumar	JSS College of Pharmacy JSS Academy of Higher Education & Research	Engineered Small Extracellular Vesicles as A Therapeutic Carrier Targeting Triple-Negative Breast Cancer
Consolation	Nandita Krishnan	Clinical Nutrition/ SRIHER	Microbial Attributes of Resistant Starch-Based Health Mix Developed for Women with Polycystic Ovarian Syndrome



National Scientific Conclave on Interdisciplinary

- The Valedictory function ended with a Vote of thanks by Dr. Venkateswarlu Raavi, Organizing secretary - NSC 2025 and the Deputy co-ordinator, Research and Development Cell, SDUAHER.
- The program ended with the National Anthem



Organizing team

Rapporteurs for Day 1

1. Ms. Indumathi AN, PhD Scholar, Dept of Cell Biology and Molecular Genetics, SDUAHER
2. Ms. Shriya S, PhD Scholar, Dept of Integrative Medicine, SDUAHER

Rapporteurs for Day 2

1. Ms. Chandini Rao, Lecturer, Dept. of Allied Health Sciences, SDUAHER
2. Dr. Soundariya S, Assistant Professor, Clinical Nutrition and Dietetics, SDUAHER

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NSC 2025

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Organizing Chairperson
NSC 2025



International Conference on Physiotherapy Education and Research

Abstracts

7th & 8th March 2025, RLJCOPT, SDUAHER, Kolar



International Conference on Physiotherapy Education and Research

A Comparative Study on Extension (McKenzie) Versus Flexion Exercises (William's) On Mechanical Low Back Pain.

Isha Shamkant Kolhe

Dhole Patil College of Physiotherapy

Background / Objective: Mechanical low back pain (MLBP) is a prevalent condition that significantly impacts quality of life and productivity. Various exercise regimens have been proposed to manage MLBP, with McKenzie extension exercises and William's flexion exercises being two of the most commonly recommended approaches. The objective is to compare the efficacy of the two exercise protocols of McKenzie and William's in alleviating pain, improving functional disability and enhancing lumbar range of motion in patients with MLBP.

Method: A total of 60 subjects aged between 18 to 30 diagnosed with MLBP were equally divided into two groups - one performing McKenzie exercises and other performing William's exercises. Numerical Pain Rating Scale (NPRS) was used to assess pain, Oswestry Disability Index (ODI) for functional disability and goniometric assessment for lumbar range of motion.

Result: The result indicated that both the regimens showed improvement. Pain Reduction (NPRS): Extension exercises significantly reduce pain ($p = 0.050$) compared to flexion exercises. ODI: No significant difference between flexion and extension exercises ($p = 0.390$). Flexion Range: No significant difference was observed ($p = 0.447$). Extension Range: No significant difference was observed ($p = 0.350$).

Conclusion: The study indicated that both exercise regimens showed a statistically greater improvement in pain reduction, functional disability and lumbar range of motion over time. However, the McKenzie extension exercises showed a statistically greater improvement in pain reduction, functional disability and range of motion of lumbar spine.

Keywords: McKenzie extension exercises, William's flexion exercises, mechanical low back pain, lumbar rehabilitation, exercise therapy, numerical pain rating scale, oswestry disability index.



International Conference on Physiotherapy Education and Research

Comparative Study Of Physical Fitness Levels Among Municipal Corporation And Semi-Private School-Going Adolescents

Kanchan Sopanrao Dhakulkar
Dhole Patil College of Physiotherapy

Background/objective:

Physical fitness plays a crucial role in adolescent development, influencing overall health, academic performance, and social well-being. This study aims to compare the physical fitness levels of adolescent male students from municipal corporation schools and semi-private schools to assess the impact of different schooling environments on their physical well-being. To compare upper extremity strength, lower extremity strength, agility, cardiovascular fitness and flexibility between municipal corporation and semi private school adolescent.

Methodology:

A total sample of 100 students age 12- to 17-year-old was selected from both types of schools. 50 from one school and 50 from other school. Upper extremity strength was assessed by Jamar Dynamometer, lower extremity strength was assessed by standing long jump test, speed and agility test by 4×10-meter shuttle run test, flexibility test was assessed by back saver sit and reach test also taken waist hip ratio and body mass index to check the risk factor and physical fitness.

Result:

The results indicated significant differences in various fitness components between the two groups. The p value of independent variable is not statistically significant and the dependent variables are standing long jump test and 20-meter shuttle run test is having significant results with p value 0.001 and 0.000 respectively. The result is higher in group B than group A.

Conclusion:

The study found a significant difference in standing long jump ($p = 0.001$) and 20-meter shuttle run test ($p = 0.000$) between Municipal Corporation and Semi-Private School adolescents. Semi-Private School boys exhibited superior lower extremity strength and cardiorespiratory.

Keywords:

Physical fitness, Adolescents, Municipal Corporation Schools, Semi-Private Schools, Comparative Study, Physical Education.



International Conference on Physiotherapy Education and Research

Effect Of Physiotherapy To Improve Balance, Gait And Functioning In Community Dwelling Elders

Soumya Sangamnerkar
Dhole Patil College of Physiotherapy

Background and Objective: Aging is associated with physical and psychological decline, leading to impairments in balance, mobility and an increased risk of falls as it may affect central nervous system and neuromuscular system properties leading to these physical deficits. This study aims to assess the effect of a 5-week home-based physical therapy program on improving balance, gait, and overall functioning in community-dwelling elders.

Method: Sixty participants, aged 65 and older, were evaluated before and after the intervention using the Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS), Dynamic Gait Index (DGI), Berg Balance Scale (BBS), and Functional Independence Measure (FIM).

Result: The physiotherapy program incorporated exercises targeting strength, balance, and mobility, with sessions gradually progressing in difficulty. Pre- and post-intervention assessments showed significant improvements in balance (BBS), gait (DGI), depression levels (GDS), and functional independence (FIM). These results indicate that structured physical therapy interventions can effectively enhance physical functioning and mental health in the elderly population, helping them maintain independence and reduce the risk of falls. Following differences in the values of Mean Score obtained by the use of aforementioned scales before and after the intervention of physiotherapy are notable:

- Difference obtained in BBS: +2.2
- Difference obtained in DGI: + 0.37
- Difference obtained in FIM: +0.86
- Difference obtained in GDS: -0.21

Conclusion: The study concluded that physiotherapy had a significant positive impact on balance, gait, and overall functioning among community-dwelling elders after five weeks of intervention.

Key Words: Balance, Gait, Functioning, Physiotherapy, Elders.



International Conference on Physiotherapy Education and Research

The Comparative Study of Effect of MET vs MFR On Pectoralis Minor Tightness in Powerlifters

Swarali Vishwambhar Pawar
Dhole Patil College of Physiotherapy

Background/ Objective: Powerlifting is a sport that consists of squats, bench press, and deadlift. The Powerlifters train the pectorals and anterior pushing muscle more vigorously leading to over developed muscle and tightness. Tightness of Pectoralis minor is contributing factor associated with postural syndrome, muscle imbalance, impingement and tendinopathies. Muscle energy technique and myofascial release technique are used to correct the postural dysfunction. The objective of the study is to compare the effect of Muscle energy technique (MET) and myofascial release technique (MFR) on Pectoralis minor tightness in Powerlifters

Method: A total of 40 participants were divided in two groups Group A - Treated with muscle energy technique (MET), Group B- Treated with myofascial release technique (MFR). Pectoralis minor length was assessed using conventional methods.

Result :

1. Pectoralis Minor Muscle Length:

MET: Greater improvement—acromion to floor distance ↓ (10.74 cm → 9.76 cm), sternal notch to coracoid distance ↑ (12.71 cm → 13.26 cm).

MFR: Lesser improvement—acromion to floor distance ↓ (11.63 cm → 11.16 cm), sternal notch to coracoid distance ↑ (13.46 cm → 13.75 cm).

2. Wilcoxon Signed Rank Test:

MET: Significant improvements ($p < 0.01$) in both distances.

MFR: Significant only in sternal notch to coracoid distance ($p = 0.040$), acromion to floor distance ($p = 0.001$).

3. Comparison: MET showed greater effectiveness than MFR ($p = 0.00$).

4. Correlation: Both MET and MFR showed a perfect positive correlation ($r = 1$) between increased muscle length and reduced tightness.

Conclusion: The conclusion is Muscle Energy Technique works more efficiently compared to Myofascial Release Technique in lengthening the tight Pectoralis minor in Powerlifters.

Key words: Bench-press, Muscle Energy Technique, Myofascial Release Technique, Pectoralis Minor



International Conference on Physiotherapy Education and Research

Comparative Study of Balance Impairments and Womac Questionnaire on Patients with Symptomatic Knee Osteoarthritis and Age Matched Non- Symptomatic Controls

Tanvi Sunil Gawali

Dhole Patil College of Physiotherapy

Background and Objectives:

Osteoarthritis is the fourth leading cause of disability and impairments in the elderly population. It has a wide range of symptoms which include chronic pain, joint stiffness, muscle weakness, balance impairment, and difficulty in performing activities of daily living. Thus, to compare balance, pain, stiffness, and disability in patients with knee osteoarthritis versus age-matched controls.

Method:

Total 100 individuals, more than 50 years of age, were divided into two groups of 50 patients with knee osteoarthritis and 50 asymptomatic age-matched controls were included. Diagnosis of knee osteoarthritis was done using American College of Rheumatology Criteria, for which at least 3 are to be positive.

Balance was assessed using the Berg Balance Scale (BBS). Pain, stiffness, and disability were assessed using the Western Ontario and McMaster University Osteoarthritis Index (WOMAC) questionnaire.

Result:

Compared to age-matched controls, patients with knee osteoarthritis have demonstrated a statistically significant difference in balance impairment (p value <0.05), pain (p value <0.05), stiffness (p value <0.05), and disability (p value <0.05).

Conclusion:

This study concludes that the patients with knee osteoarthritis had a significant difference in pain, stiffness, disability, and balance when compared with age-matched controls.

Key words:

Knee Osteoarthritis, Berg Balance Scale, Balance Impairments, WOMAC Questionnaire.



International Conference on Physiotherapy Education and Research

Impact Of Moderate Intensity Continuous Training (Mict) On Physical Fitness Across Early, Mid, And Late Adolescence

Eashwar Anandh
Garden City University

Aims & Objectives:

The study aimed to explore the impact of Moderate Intensity Continuous Training (MICT) on physical fitness across early, mid, and late adolescence. It focused on measuring physical fitness parameters such as cardio respiratory fitness, muscular strength and endurance, flexibility and mobility and assessment of physical activity enjoyment to understand how MICT influences adolescents' health and well-being.

Materials and Methods:

A 12-week pre-post interventional study was conducted with 108 adolescents, divided equally into early, mid, and late adolescence groups. Using stratified random sampling, participants underwent a 1-hour MICT program, including warm-up and cool-down periods, tailored to their practical feasibility. Physical fitness parameters and physical activity enjoyment were measured before and after the intervention. The study spanned six months, with data analyzed statistically to evaluate the effects of MICT.

Results:

The findings revealed that MICT significantly improved both aerobic and muscular fitness in adolescents across all stages. Additionally, participants reported a higher level of enjoyment in physical activity, indicating that MICT not only enhances physical health but also fosters a positive attitude toward exercise.

Conclusion:

Moderate Intensity Continuous Training is an effective and enjoyable approach to improving physical fitness in adolescents. The study underscores the importance of structured exercise programs tailored to different stages of adolescence, offering valuable insights for physiotherapists, fitness trainers, and educators in promoting adolescent health and well-being. This research also highlights the need for further exploration into stage-specific exercise interventions to optimize physical performance and recovery in this age group.



International Conference on Physiotherapy Education and Research

Impact Of Neural Plasticity Based Intervention For Acl Ligament Recovery

P Varsha

Garden City University

Aims and objectives

The study aims to explore the impact of Neural plasticity-based intervention for ACL ligament recovery. It emphasizes the importance of shifting focus from traditional rehabilitation methods to more holistic approach, and how neuroplasticity influences a better contribution to ACL injuries.

Materials and methods:

Out of 20 articles, 5 articles conducted an experiment that included participants who underwent unilateral ACL reconstruction and rehabilitation from different rehabilitation facilities. magnetic resonance imaging was used to assess the brain activity before and after ACL reconstruction that was taken at pre-surgery, 6 weeks post-surgery, 6 months post surgery. the patients underwent a rehabilitation protocol that included proprioception exercises, balance exercises, motor control training.

Results:

The findings revealed that changes were observed on the areas that were responsible for motor control, sensory processing, proprioception, increased brain activity and changes in brain connectivity between motor cortex, Basal ganglia, and cerebellum was noted and this changes were associated with improved motor control and functional training.

Conclusion:

The study provides a new effective way of rehabilitation that induces neuroplastic changes associated with ACL construction, this research also provide an idea of future studies to investigate the specific neural mechanism underlying in neural plasticity after ACL reconstruction and rehabilitation. This research explores the development of individualized protocol according to individual neuroplasticity profiles.



International Conference on Physiotherapy Education and Research

Description Of Innovation: Name Of The Device: Myocapability Detector

Rakesh V M

Garden City University

- This device is mainly used for the rehabilitation program of the hand, the hand muscles, training for the hand gripping and precision handling.

The device consists of the 5 bar meter, pressure sensors, pressure transducers, transmitter and 2 switches and 0 W LED bulb.

- It consists of 2 channels specified for inserting electrodes for strengthening Gripping and the precision activity respectively.

It consists of 5 bar meter each one specified for each finger in the hand.

- It consists of the different shaped electrodes with circular/spherical, cylindrical shape and flat shaped objects at one end and the opposite end is inserted into the channel present in the device.

Each of these shapes consists of the pressure sensors incorporated inside them.

- When the specific electrodes are inserted into the devices channels and the patient is asked to hold the object/ electrode depending on the rehabilitation plan and is asked to press or apply pressure as much as possible.

The pressure sensors inside the object sense the pressure and represents the pressure applied on the barometer present in the device.

the muscle strength is optimal or more, the light on the right side top glows denoting that the muscle strength is optimal or good, if the pressure applied is too low, it represents the weakness of the muscles involved in that particular grip (Diagnostic).

- When the muscle weakness is detected, then the same device can be used for strengthening, the patient is asked to perform the same gripping or the precision activity until his / her strength is improved.

- This way the device also gives the biofeedback to the patient.



International Conference on Physiotherapy Education and Research

Understanding Tendonitis: Causes, Symptoms, Treatment And Preventive Measures

C H Vyshnavi, R Hima Varsha
Mohan Babu University

INTRODUCTION: Tendonitis is a condition characterized by the inflammation or irritation of a tendon, typically resulting from overuse or repetitive motion. It commonly affects areas such as the shoulder, elbow, wrist, knee, and Achilles tendon. **METHODS:** The primary causes of tendonitis include repetitive physical activity, sudden increases in intensity or frequency of movement, and improper technique during exercise or work tasks. Symptoms often involve localized pain, swelling, and stiffness, which can impair mobility and function. **OBJECTIVE:** Treatment for tendonitis generally includes rest, ice, physical therapy, and anti-inflammatory medications, with severe cases sometimes requiring corticosteroid injections or surgery. Preventive measures are essential in reducing the risk of tendonitis, including proper warm-up and stretching before physical activities, maintaining good posture, using ergonomic tools, and avoiding repetitive strain. **CONCLUSION:** This article explores the causes, symptoms, treatment options, and effective preventive strategies to manage and reduce the risk of tendonitis, improving overall tendon health and mobility.



International Conference on Physiotherapy Education and Research

App For Early Diagnosis For Pa Shoulder

S Harika Srinivas
Mohan Babu University

This app consists of many features allowing the patient to know whether he/she is having PA shoulder.

It consists of camera after opening the app through which the patient should will stand and do the movements -flexion,extention,adduction,abduction. After performing the movement,the app itself will show the normal range of motion of the joint, the range of motion in the patient, general movement in the joint, the movement happening in the patient's joint.The app allows to take screenshots, it shows the muscles responsible for the movements flexion, extension, adduction, abduction. It will allow to set up the language which we want. It shows the severity of pain with the colours -red, green (no pain), yellow (mild pain) and treatment-home programs.



International Conference on Physiotherapy Education and Research

The Role Of Hip Joint Strength In Patellofemoral Pain

K. Prashanthi, M. Sowmya
Mohan Babu University

Aim: This study analyzes how hip joint strength impacts knee stability, alignment, and biomechanics in preventing and managing Patellofemoral Pain Syndrome (PFPS).

Introduction:

Patellofemoral Pain Syndrome (PFPS), or runner's knee, is a common cause of anterior knee pain in athletes. Weak hip joint muscles contribute to knee valgus (inward collapse), increasing stress on the patellofemoral joint.

Methods: A literature review examined biomechanical studies and rehabilitation protocols related to PFPS. Strengthening exercises targeting hip joint muscles were analyzed for effectiveness in reducing knee pain and improving movement mechanics. Objectives: Assess the link between hip joint weakness and PFPS. Evaluate the effectiveness of targeted strengthening exercises. Provide evidence-based recommendations for PFPS management. Conclusion: Hip joint strengthening is essential for correcting knee alignment, enhancing stability, and reducing PFPS symptoms. A combined approach of strength training, flexibility, and movement training is key to long-term knee health and athletic performance.



International Conference on Physiotherapy Education and Research

Heal Your Back: Functional Training Exercises Of Low Back Pain

S L Anusha, S K Yasin
Mohan Babu University

***Background*:** Low back pain (LBP) is a prevalent and debilitating condition with significant individual and socioeconomic impact. Characterized by discomfort in the lumbar region, LBP can stem from various factors including muscle strain, disc problems, and structural issues. This abstract focuses on non-specific LBP, where no specific pathology is identified. Effective management necessitates a multi-faceted approach, with exercise playing a crucial role. Functional training, mimicking real-life movements, is highlighted as a promising intervention.

***Methods*:** This presentation outlines the principles of functional training for LBP, demonstrating various exercises and their application. It emphasizes the importance of a comprehensive assessment, including clinical features like pain characteristics, stiffness, and postural problems. Assessment tools such as goniometry, the slump test, and functional assessments like the Modified Oswestry Disability Index (MODI) and the Roland-Morris Pain Scale (RMPS) are discussed. The presentation showcases functional exercises, including hip hinge with resistance band, bird dog, wall sit with arm raises, thoracic spine rotation, side plank, and deadlifts/single leg deadlifts, illustrating their practical application in LBP management.

***Results*:** While this presentation focuses on the application of functional training and does not present specific research data, it draws upon existing evidence supporting the benefits of exercise in managing LBP. Functional training aims to improve core stability, strength, and flexibility, all vital for spinal support and pain reduction. By mimicking real-life movements, these exercises translate to improved functional capacity and reduced pain during daily activities. The demonstrated exercises are designed to target multiple muscle groups simultaneously, promoting a holistic approach to LBP management.

***Conclusion*:** This presentation advocates for the integration of functional training into physiotherapy interventions for LBP, supported by evidence-based research and clinical guidelines. Early intervention through physiotherapy management, including electrotherapy, stretching, strengthening, posture correction, and ergonomic advice, is crucial in preventing LBP from becoming a chronic issue. Functional training offers a safe and effective way to manage LBP, enabling individuals to return to daily activities and improve their quality of life. Further research is encouraged to investigate the optimal protocols and long-term effects of functional training in diverse LBP populations.



International Conference on Physiotherapy Education and Research

Effect of Weight-Bearing Exercises on Bone Mineral Density in Post-Menopausal Women

Summaries, K. Anil
Mohan Babu University

Introduction: Post-menopausal women face a significant risk of osteoporosis and fractures due to loss of bone mineral density (BMD). **Methods:** study explores the effects of high-impact activities, resistance training, and progressive loading on BMD. **Objectives:** Regular weight-bearing exercises are shown to enhance overall musculoskeletal health, reduce fracture risk, and strengthens bones.

Result: Weight-bearing exercises enhance BMD, stimulate osteogenesis, and prevent osteoclastogenesis. **Conclusion:** This study highlights the need to integrate structured weight-bearing exercises into post-menopausal women's health interventions. By doing so, we can reduce the risk of osteoporosis and fractures, and promote overall bone health.



International Conference on Physiotherapy Education and Research

Literature Review on Effectiveness of Upper Limb & Scapular Stabilization Exercise In Patients Suffering From Trapezitis

A.Pallavi, Y.Himaji
Mohan Babu University

Background: Trapezii's is a condition characterized by inflammation of trapezius muscle which can result in neck pain and muscle spasms. A large-scale that extends from the back to the shoulder blades. Trapezius muscle pain can be caused by various factors such as poor posture, overuse of muscle, stress, tension or injury. Tightness in the muscle can decrease the range of motion that can limits activities of daily living. Biomechanics can be applied to studying the cause, treatment and prevention of injury. So the research can analyse the forces work that can lead to trapezitis and how exercise, posture or ergonomic advice might reduce the risk of injury.**Objective:**The systematic reviews states the effectiveness of stabilization technique in trapezitis.**Method :**The data bases used for searching articles were pub med, google scholar, science direct.**Selection criteria:**Includes trapezitis, mechanical neck pain, energy stretching & strengthening exercises, ergonomic training, self-stretching techniques, taping techniques, electrical therapy, laser therapy to release pain.**Result:**Total 15 articles were selected after the selection criteria & in those articles it states that upper limb & scapular stabilization exercises are effective in trapezitis.**Conclusion:**In the literature review, it is concluded that regular upper limb & scapula stabilization exercises can strengthen the muscles that shows a good result in trapezitis by improving range of motion, reduction of pain & tightness muscle.



International Conference on Physiotherapy Education and Research

Relationship Between Physical Activity And Spinal Curvature Using Kyphosis Index Among Young Adults- A Cross-Sectional Study

Maria Paul

R L Jalapa College of Physiotherapy, Tamaka, Kolar

Background: Physical health is an essential component of health linked with musculoskeletal system and biological function. College students, are becoming more sedentary due to their studies and technology which has negative impact on their long-term musculoskeletal health. Sedentary behaviour causes imbalance between agonist and antagonist muscles of the trunk due to poor posture, that can altered Spinal curvature, increase in thoracic curvature is hyperkyphosis, decrease in thoracic curvature is hypokyphosis. Postural kyphosis is common in adolescent age group due to sedentary behaviour. Therefore, this study aims to quantify physical activity levels, and its relationships with spinal curvature of the thoracic spine in college students.

Methodology: Sample size -125. The study Involved filling of the IPAQ to asses PA and measuring of the spinal curvature using flexicurve ruler.

Result: Statistical analysis was done using software SPSS 23.0. the participants were Mostly categorized in ages of 18-21 years (68.8%) and more females (55.2%). Descriptive Statistics revealed average weight of 60.2 kg and height of 164.8 cm, making a mean BMI of 22.2 and a Kyphosis index of 8.5. Analysing MET-min/week, it can be found that it was largely Distributed, with its median being 1,782 and an IQR of 693-4,627. No significant correlation of MET-min /week and Kyphosis index $r = 0.007$.

Discussion: This study assessed the relationship of PA with thoracic spinal curvature, in young Adults. Although there was a positive relationship between the PA expressed in MET min/week, and the kyphosis index, the correlation coefficient was very low, not significant with $r = 0.007$ ($p = 0.938$). The findings suggested that the factors other than PA that is, posture and Ergonomics are more important factors that affects the spinal curvature.

Conclusion: This study highlights that although PA is related to many health advantages, but has no significant impact on spinal curvature without specific interventions.

Key words: physical activity, sedentary, spinal curvature, kyphosis



International Conference on Physiotherapy Education and Research

Willis Ekblom Disease - Advanced Physiotherapy Management

Rajalakshmi & S.Vishnupriya

Shri Venkateshwara College of Physiotherapy, Ariyur, Puducherry.

BACKGROUND: Willis - Ekblom Disease (WED), also known as Restless Legs Syndrome (RLS), is a chronic neurological disorder characterized by an irresistible urge to move the legs. Many patients experience persistent symptoms, reduced quality of life, and decreased treatment adherence. This abstract highlights advanced physiotherapy management strategies for optimizing treatment outcomes in WED. It includes:

1. Transcranial magnetic stimulation
2. Stretching exercises
3. Aerobic exercises
4. Trauma release exercises

By adopting these advanced physiotherapy management strategies, healthcare providers can improve treatment outcomes, enhance patient satisfaction, and reduce the burden of WED on patients' daily lives.

This abstract provides a comprehensive overview of the latest advances in WED management, enabling healthcare providers to deliver optimal care for patients with this complex and debilitating disorder.



International Conference on Physiotherapy Education and Research

Therabite Therapy - Rehab For Jaw Motion

Jothika B

Sri Venkateshwara college of physiotherapy

Temporomandibular joint dysfunction (TMJD) indicated alterations in the muscle, temporomandibular joint (TMJ) and other tissues that lead to discomfort and jaw pain. One of the adverse consequences of oncologic treatment that is commonly experienced by individuals suffering from head and neck cancer (HNC) is trismus, which is characterized by a restricted 35 mm of mouth opening or less. Thera bite therapy is used for the conditions like trismus, oral cancer, temporomandibular dysfunction. This exercise program is used to maximize the jaw ROM and function, improves jaw muscle strength, nourishes TMJ tissues and reduce stiffness, Reduces joint pain and inflammation, speeds the recovery. It was recognised that trismus patients were initially undergoing an increased rate of difficulty in jaw opening but after a two weeks of jaw mobilization exercise and therabite exercises there was an appreciable increase in their mouth opening and relief of pain.

Keywords- therabite therapy, trismus, oral cancer, temporomandibular dysfunction, to increase ROM and function.



International Conference on Physiotherapy Education and Research

A Study To Compare The Effects Of Suboccipital And Sternocleidomastoid Release Technique Versus Mckenzie Exercises In Forward Head Posture Among College Students

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Professor, Sri Venkateshwaraa College of Physiotherapy, Puducherry, India
Final Student, Sri Venkateshwaraa College of Physiotherapy, Puducherry, India
Intern, Sri Venkateshwaraa College of Physiotherapy, Puducherry, India

ABSTRACT

Background:

Forward head posture is most common misalignment found among college students due to lack of muscle strength and prolonged anterior positioning of cervical spine. Suboccipital and sternocleidomastoid release technique is effective in lengthening the muscle and correction of abnormal craniocervical angle. The aim of study is to correct the posture and decrease neck disability.

Methods:

The participants were selected according to selection criteria. The study design was a comparative study. Totally 30 participants, divided into 2 groups Suboccipital and sternocleidomastoid release technique group A (n=15) and McKenzie exercise protocol group B (n=15) with these were performed (4 weeks/3 sessions). The measurements were Craniocervical angle and neck disability Index.

Result:

The statistical analysis done with the Group A and Group B. Compare with the Suboccipital and sternocleidomastoid release technique and McKenzie exercise protocol improved significantly greater in both groups after 4week the improvement was significantly greater 0.0001 in Suboccipital and sternocleidomastoid release technique than the McKenzie exercise protocol.

Conclusion:

The study concludes that both Myofascial Release and McKenzie exercise protocol are significant. However, the Suboccipital and sternocleidomastoid release technique is effective in reducing neck pain and increasing craniocervical angle.

Keywords:

Myofascial release technique, McKenzie exercise protocol, craniocervical angle.



International Conference on Physiotherapy Education and Research

The Pinky Problem: Smartphone Induced Guyon Canal Syndrome

S. Jayasri,

BPT-final year, Sri Venkateshwara college of physiotherapy

***Background*:**

The increasing use of smartphones has led to a condition known as "smartphone pinky," which causes pain, weakness, and potential deformity of the pinky finger due to prolonged device usage. This condition can contribute to Guyon's Canal Syndrome, a compression neuropathy affecting the ulnar nerve at the wrist, leading to motor and sensory deficits. The condition arises from repetitive strain, prolonged compression, nerve inflammation, ischemia, and progressive nerve damage. Symptoms include numbness, tingling, grip weakness, and finger clawing. Diagnosis involves Tinel's sign, Froment's sign, and Phalen's test.

Physiotherapy interventions such as wrist and finger stretch, postural training, nerve gliding, and strengthening exercises help manage the condition. Preventative measures include ergonomic phone usage, correct hand posture, and finger exercises. Recent advancements include ergonomic phone designs, wearable devices, AI-based hand therapy, and minimally invasive surgeries to mitigate the impact of smartphone-induced strain on the hand.



International Conference on Physiotherapy Education and Research

Fragile X-Associated Ataxia

G. Northug,

Sri Venkateswara College of Physiotherapy; Ariyur; Pondicherry.

BACKGROUND: Fragile X-associated ataxia (FX-ataxia) is a debilitating neurological disorder caused by a mutation in the FMR1 gene, affecting approximately 1 in 3,000 individuals. The disorder is characterized by a range of symptoms, including ataxia, tremors, and cognitive decline, significantly impacting quality of life. FX-ataxia typically manifests in mid-life, with symptoms progressing over time.

The pathophysiology of FX-ataxia involves the expansion of the CGG repeat in the FMR1 gene, leading to a toxic gain-of-function of the FMR1 mRNA. This results in the degeneration of cerebellar Purkinje cells and the disruption of neural circuits, culminating in the characteristic symptoms of FX-ataxia.

While there is currently no cure for FX-ataxia, physiotherapy interventions can play a crucial role in managing symptoms and improving quality of life. A comprehensive treatment plan, tailored to the individual's specific needs and goals, can help alleviate symptoms, enhance mobility and balance, and promote overall well-being.



International Conference on Physiotherapy Education and Research

Snapping Scapula Syndrome

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BACKGROUND; snapping scapula syndrome is the snapping or popping sensation in the shoulder blade area during movement often accompanied by pain, scapula moves along the ribcage and many produce an audible or palpable sound due to abnormal interaction between the scapula and surrounding structure. This condition signs and symptoms of popping clicking or snapping sensation in the scapular region; pain and discomfort in the upper back and shoulder. tenderness around the scapula, weakness or fatigue in the shoulder and upper back muscles in the symptoms from the snapping scapula syndrome.

Pathophysiology of the scapula 's movement along the ribcage can become altered due to various structural changes including muscular imbalance Bony anomalies or soft tissue inflammation. Then diagnosis of the scapular dyskensis test, yergason' s test, neer's impingement test shoulder range of motion assessment. Due to prevention proper posture, strengthening the shoulder muscles, flexibility exercise, ergonomic modification. Physiotherapy intervention in snapping scapula syndrome is scapular stabilization exercise, manual therapy. Posture correction stretching and strengthening, pain management. Ultrasound guided injection, surgical interventions, rehabilitation protocols. They are recent advancement of snapping scapula syndrome. These interventions aim to enhance stability, relief pain and improve quality of life in SSS.



International Conference on Physiotherapy Education and Research

Understanding Pregnancy Related Pelvic Girdle Pain: Pain Free Pregnancy.

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BACKGROUND: Around 1 in 5 women experiences mild discomfort in back or front of the pelvis during pregnancy. ⁽¹⁾ “Pelvic girdle pain (PGP) generally arises in relation to pregnancy, trauma or reactive arthritis. Pain is experienced between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the sacroiliac joints⁽²⁾. Incidence of PPGP ranges from 4% - 76.4%⁽³⁾. Overall, about 45% of all pregnant women and 25% of all women postpartum suffer from PGP⁽⁴⁾. Physiotherapy considered as a relevant intervention in treatment of pelvic girdle pain. Hence physiotherapy intervention shows more importance in pregnancy related pelvic girdle pain.



International Conference on Physiotherapy Education and Research

Unraveling the enigma of peer group and family members perception on biopsychosocial problems in peri menopausal women: A qualitative study

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Abstract

Menopause is an important reproductive milestone in a woman's life, often with various physical, psychological and social challenges. Perimenopause is characterized by transitional phase, irregular menstrual cycles, with a cycle variation of more than seven days or two or more cycles missing. Middle -aged women are vulnerable to biopsychosocial issues especially during this phase.

This qualitative study held in Puducherry shows whether Perimenopausal women experience these issues independently or are influenced by their relatives and peers. In-depth, semi structured face-to-face interviews were conducted with 10 perimenopausal women (7 married, 2 divorced, 1 unmarried) and 15 close relatives or peers. Questions covered biological symptoms (eg, musculoskeletal pain, fatigue, sleep disturbances), psychological concerns (eg, depression, anxiety, anger), and social aspects (eg, participation in family functions, social expectations). Additionally coping strategies and responses to probing questions was investigated.

Conclusion

The findings showed that while Perimenopausal women had mainly experienced biological issues, the psychological crisis was greatly influenced by their social environment. Relatives and peers considered psychological and social problems more prominent, often reinforcing concerns among perimenopausal women. Many relatives considered emotional crisis as a common part of menopause, inadvertently raised the awareness of women about psychological challenges. Additionally, expectations from family, especially daughters, played a role in emotional stress. However, the primary concern among these women was musculoskeletal issues, hence they tend to delegate the to their close relatives.

The study highlights the need to resolve both biological and psychological challenges faced by Perimenopausal women. This emphasizes the importance of effective copying strategies to reduce the effects of social effects and improve overall well -being.



International Conference on Physiotherapy Education and Research

Effect Of Medium Frequency For Post Segmental Hepatectomy With Ileal Resection In Neuroendocrine Tumor Of Ileum With Liver Mets: A Case Study

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ABSTRACT

Jejunal neuroendocrine tumors with liver metastases present significant challenges in both management and post-surgical recovery. This case study examines a patient who underwent a right hepatectomy sparing segment 4A, ileal resection with end-to-end anastomosis, and mesenteric lymphadenopathy clearance following four cycles of peptide receptor radionuclide therapy (PRRT). Post-surgery, the patient experienced severe back and abdominal pain, which significantly impaired functional performance and mobility. To address this, transcutaneous electrical nerve stimulation (TENS) therapy, a form of modulated frequency therapy, was administered as a non-pharmacological intervention for pain relief. The treatment protocol included TENS application twice daily for 10 consecutive days. Pain levels were assessed using the Numerical Pain Rating Scale (NPRS), showing a reduction from a pre-treatment score of 9 to a post-treatment score of 6. Additionally, functional performance improved. The time required to transition from a supine position to standing decreased, and the number of repetitions completed in the squat test increased, indicating enhanced mobility and endurance. These findings highlight the potential of TENS therapy as an effective adjunct to pain management following major abdominal surgeries. In cases involving liver resection, where pain medication options may be limited due to hepatic function concerns, TENS could serve as a valuable alternative for pain relief.



International Conference on Physiotherapy Education and Research

Pressure Garment Therapy

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BACKGROUND: pressure garment therapy is a widely used intervention for prevention and treatment of hypertrophic scar following burns. It gives more effective during maturation phase of scar healing. This therapy involves application of customized or non-customized pressure garments worn for up to 23 hours daily over a period ranging from 12 to 18 months, with pressure between 6 to 50 mm Hg. PGT has been shown to significantly improve scar thinning, pliability and overall appearance, with effectiveness rates between 60 to 85%. through structured therapy PGT remains corner stone in post burn rehabilitation, improving both functional and aesthetic recovery.



International Conference on Physiotherapy Education and Research

Ehlers – Danlos Syndrome

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BACKGROUND: Ehlers-Danlos Syndrome (EDS) is a group of inherited connective tissue disorders that affect the skin, joints, blood vessels, and other organs. It manifests through various symptoms, predominantly musculoskeletal, neurological, neuromuscular, cardiopulmonary, gastrointestinal, integumentary, genitourinary, ophthalmologic, oral, dental, hematological, and psychiatric complications. The condition is classified into several types, including Classical, Hypermobility, Vascular, Kyphoscoliotic, Arthrochalasia, and Dermatosparaxis types, each with distinct clinical features. Diagnosis of EDS relies on established major and minor criteria, incorporating physical assessments, joint mobility evaluation, and genetic testing. Due to its complex and multisystemic nature, a multidisciplinary approach is necessary for effective management. Physical therapy plays a crucial role in symptom relief and functional improvement, focusing on non-weight-bearing exercises, mild strengthening, resistance training, splinting, aerobic conditioning, proprioception training, and joint protection strategies. These interventions aim to enhance stability, reduce pain, and improve overall quality of life for individuals with EDS.



International Conference on Physiotherapy Education and Research

Effectiveness of soleous push-ups for glycemc control in diabetes.

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BACKGROUND: Diabetes is a leading cause of disease & death in United states. Calf is made of two major muscles the Soleous and Gastrocnemius. Soleus consist of fatigue resistance slow twitch muscle fibers. Soleus pushups are simple seated exercise, sit on chair with knee bent and feet flat on the floor,push your toes into the ground and raise your heel up and down continuously. With 3sets of 30 repitations we can increase over a week. Some research suggest that it can have significant effects on blood glucose regulation potentially lower blood glucose levels, improving insulin sensitivity & enhancing metabolism. Soleous pushups combined with walking can be valuable & powerful exercise can be easily incorporated into dailylife, making it a practical & sustainable solution for managing blood glucose level enhancing overall health and well-being.



International Conference on Physiotherapy Education and Research

Lumbar radiculopathy managed with the spinal mobilization with leg movement.

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Background

Lumbar radiculopathy refers to the condition associated with nerves in the lower back (Lumbar spine) mainly characterized by the irritation, inflammation or compression of the Lumbar region nerves causing pain, numbness, tingling and weakness in the lower back and legs. Some exercise that combines the spinal mobilization with the leg movement can be used to treat.

Objective

This report describes the case of prolapsed lumbar intervertebral disc with radiating pain to the leg managed with spinal mobilization with the leg movement (SMWLM)

Method

Spinal mobilization with the leg movement: -Patient in the side lying on right side. A firm transverse pressure at the L4 toward right side was applied. An assistant was asked to move the left limb in SLR position to the point of no pain. In first treatment session, a set of the three repetitions was delivered, followed by the three sets of six repetitions with a thirty second rest interval between sets on consequent treatment sessions. Passive pain free overpressure to SLR was being given as progression.

Result

Spinal mobilization with the leg movement combined with intermittent lumbar traction and interferential therapy resulted in decrease in disability and pain as well as improvement in the range of straight leg raise. Therefore, it may be used as a first line of the treatment with the massive disc prolapse before surgical intervention.

Conclusion

Patient responded favorably to the SMWLM. Study concludes decrease in VAS score, ODI score and improvement in SLR range of motion. SM-WLM may be a viable non-surgical treatment for the lumbar prolapsed intervertebral disc patients.

Keywords

Lumbar Prolapsed Intervertebral Disc, Spinal Mobilization with Leg Movement, Manual therapy, physiotherapy, Intermittent lumbar traction, Interferential therapy.



International Conference on Physiotherapy Education and Research

Physiotherapy Management In Chronic Pelvic Pain

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Introduction:

Chronic pelvic pain (CPP) is a debilitating condition affecting millions worldwide, impacting quality of life and causing significant distress. Physiotherapy has emerged as a promising intervention for managing CPP. Chronic pelvic pain in women is a common problem. Specific causes are often difficult to identify, even after investigation with ultrasound and inspection of the pelvis with key hole surgery.

Chronic pelvic pain is a common condition that can cause severe distress and considerable burden on the person affected as well as the health care system. CPP significantly impairs quality of life, causing emotional distress, physical disability, and social isolation. Despite its prevalence and impact, CPP remains poorly understood, and treatment options are often limited and ineffective. In recent years, Physiotherapy has emerged as a promising adjunctive treatment for CPP.

Prevalence:

- Affecting approximately 15-25% of women and 5-10% of men worldwide.
- In Women with a history of abuse or trauma ranges between 30 -40%

Objectives:

To determine the effect of physiotherapy in reducing pain and improving functional ability in individuals with Chronic pelvic Pain.

Method:

10 participants diagnosed with Chronic pelvic pain which is treated with pelvic floor exercises, relaxation techniques, and education on pain management for about 6 weeks.

Results:

Significant reductions in pain intensity and improvements in functional ability.

Conclusion:

In physiotherapy effective management strategy, for reducing pain, improving functional ability, and enhancing pelvic floor muscle strength and flexibility in individuals with CPP, which includes :

- Improved pelvic floor muscle strength
- Enhanced flexibility and range of motion in the hip and pelvic regions
- Reduced muscle spasm and tenderness in the abdominal and pelvic areas.
- Improved bladder and bowel function

Recommendation:

- Physiotherapy should be considered a valuable adjunct to standard medical care for individuals with CPP.



International Conference on Physiotherapy Education and Research

Effects of shoulder stabilization exercises on pain and functional recovery of shoulder impingement syndrome.

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ABSTRACT

Introduction

Shoulder impingement syndrome is a common condition that occurs when the tendon of the shoulder joint is compressed or pinched, leading to the pain and limited mobility. The condition is also known to be subacromial impingement syndrome or rotator cuff impingement syndrome. The prevalence of the shoulder impingement syndrome varies depending on the population study, diagnostic criteria, and occupational or sports-related risk factors. An SIS is significantly higher in the population that engaged in the overhead activities and manual labourers. **Purpose:** This study examined the effects of scapular stabilization exercises immediately after the surgery on pain and the function in patients diagnosed with the shoulder impingement syndrome. **Subjects:** The subjects were assigned by random sampling to an experimental group (n=15) to which stabilization exercise was applied and a control group (n=15) to which ordinary physical treatment was applied. **Methods:** To evaluate the degree of pain, a 100 mm visual analogue scale (VAS) was used. The Constant-Murley Scale (CMS) was used to evaluate the functions of the shoulder joints. To determine the range of motion, a goniometer was used to measure the range of shoulder motion. The simple shoulder test (SST) was used to determine the condition of the shoulder joints of the subjects. **Results** There were significant differences in all the items of the experimental group. The results of comparison of the therapeutic effect in the experimental and control groups revealed significant differences in active abduction, passive abduction, Visual Analog Scale (VAS), The Simple Shoulder Test (SST), and The Constant - Murley Scale (CMS), except for pain. **Conclusion:** The results suggest that shoulder stabilization exercise positively affects pain alleviation and functional recovery in shoulder impingement patients.

Key words :- Shoulder, Impingement syndrome, Stabilization exercise.



International Conference on Physiotherapy Education and Research

Physiotherapy Management of Student's Elbow

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Background:

Student's elbow, or olecranon bursitis, is an inflammatory condition of the bursa overlying the olecranon process of the elbow. It is commonly caused by prolonged pressure, repetitive stress, or trauma, often observed in students due to activities like resting their elbows on hard surfaces for extended periods. Effective physiotherapy management is essential to alleviate symptoms, restore functional mobility, and prevent recurrence.

Objective:

To evaluate the effectiveness of physiotherapy interventions in reducing pain, improving functionality, and preventing recurrence in individuals with student's elbow.

Methods:

A cohort of 20 patients diagnosed with student's elbow will be participating in this study. A physiotherapy protocol comprising cryotherapy, therapeutic ultrasound, soft tissue mobilization, and progressive strengthening exercises was implemented over six weeks. Education on ergonomic modifications and postural corrections will be provided. Pain levels (VAS), range of motion (goniometry), and functional performance (DASH score) were assessed pre- and post-intervention.

Results:

At the end of six weeks, participants will show significant reductions in pain (VAS score reduced by 65%), improved range of motion (average increase of 20 degrees), and enhanced functional performance (DASH scores improved by 45%). Patient adherence to ergonomic recommendations will be positively correlated with improved outcomes.

Conclusion:

Physiotherapy is an effective approach for managing student's elbow, offering significant reductions in pain and functional improvements. A combination of therapeutic modalities, strengthening exercises, and education on ergonomics ensures better symptom management and prevention of recurrence. Early intervention and individualized treatment plans are critical for achieving optimal outcomes.



International Conference on Physiotherapy Education and Research

Strengthening Exercises in the Management of Shoulder Pain in the Diabetic Population

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Background- Shoulder pain is a common complaint of diabetic patients that causes motion limitations and functional disability. Adhesive capsulitis (AC) is the most common disabling shoulder disorder.

Objective- The aim of this study was to describe and evaluate a physiotherapy program targeted to reduce pain intensity and improve the daily functioning of diabetics with shoulder problems. Frozen Shoulder is a common problem that occurs five times more frequently in patients with diabetes. Frozen Shoulder causes pain and disability. The usual treatments reduce shoulder pain and disability, but these treatments often fail for people with diabetes.

Methods- Adhesive Capsulitis (also termed frozen shoulder) is commonly treated by manual therapy and exercise, usually delivered together as Components of a physical therapy intervention. The physiotherapy treatment consisted of exercises promoting enhanced microcirculation in the shoulder tissues, optimal shoulder co-ordination, and muscle relaxation.

Diabetic patients are more likely to develop the disease and more likely to require operative management. The pathology of the disease, and its classification, relates to inflammation and formation of extensive scar tissue. Risk factors include diabetes, hyperthyroidism, and previous cervical spine surgery.

Result -We observed that the exercise program resulted in improved shoulder external rotation ROM, shoulder rotation strength, and Shoulder function. The largest effect size was reported for joint mobilization plus exercises.

Conclusion-We found that low-quality evidence suggested large effects of joint mobilization plus exercises on AC in with people with Diabetes. Patients with and without diabetes may get equal surgical benefits, and residual pain may cause limitations in shoulder function.



International Conference on Physiotherapy Education and Research

Effectiveness Of Progressive Relaxation Techniques for Primary Dysmenorrhea

Soumya Dalawai

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ABSTRACT

Background: A randomized prospective controlled study was conducted concerning the effects of progressive relaxation exercises on the reduction of pain in primary dysmenorrhea. Dysmenorrhea is the one of the leading cause of the female's recurrent short-term absenteeism in school and workplaces. So equipping adolescent girls with adequate information and skills on menstrual care helps in empowering them with knowledge which enhances their self-esteem and positively impacts their academic performance.

Objective: To examine the effects of Progressive Relaxation Technique on menstrual pain and symptoms, anxiety, quality of life. social activity, and work/school performance in primary dysmenorrhea.

Methodology: The research control group consisted of 30 students while the experimental group consisted of 15 students in each group The progressive relaxation exercises were self-administered via compact disc by participants for two menstrual cycles. A descriptive information form, a visual analog scale (VAS) were used for data collection. Pain intensity, menstrual symptoms, anxiety, social activity, and work/school performance were assessed before and after the interventions. It is recommended that health workers can introduce and promote deep breathing relaxation techniques as an alternative therapy for adolescents who experience dysmenorrhea.

Results: The experimental research of participants of progressive relaxation techniques had shown improvement in reduction of painful cramps for two menstrual cycles. After the interventions, there was a further decrease in menstrual pain intensity, menstrual symptoms, anxiety level, and the work/school performance scores in the relaxation group than in the control group Results of the present study revealed that statistically significant differences were detected between the study and control groups regarding their pain intensity.

Conclusion: Progressive relaxation exercises are an effective method for reducing dysmenorrhea when they are performed on a regular basis. Progressive relaxation technique had a positive effect on reducing pain intensity and fatigue among female adolescents with primary dysmenorrhea. From the present study it can be concluded that the progressive relaxation technique can use as a definite alternative therapy for a primary dysmenorrhea.

Keywords: Menstrual cycle; Pelvic pain; Primary dysmenorrhea; Progressive relaxation exercises.



International Conference on Physiotherapy Education and Research

Comparative Study Of The Effects Of Continous Passive Motion Versus Static Stretching On The Range Of Motion And Pain In Patients With Total Knee Arthroplasty

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Abstract

The purpose of this study is to compare the effects of Continuous Passive Motion (CPM) therapy versus static stretching on improving range of motion (ROM) and reducing pain in patients undergoing Total Knee Arthroplasty (TKA). Post-surgical rehabilitation is essential for enhancing recovery outcomes, with particular emphasis on restoring joint mobility and minimizing post-operative pain. This research investigates two common rehabilitation techniques: CPM, which involves the continuous movement of knee joint without active patient engagement, and static stretching, which requires patient participation to lengthen the soft tissues around the knee. A sample of TKA patients was divided into two groups: one received CPM treatment, while the other underwent static stretching exercises. ROM and pain levels were measured before and after the intervention period using standard clinical assessment tools. These results provide insights into the effectiveness of each modality in improving functional outcomes, aiding clinicians in optimizing rehabilitation strategies for post-TKA patients. This study contribute to evidence-based recommendations for post-surgical care in TKA

Study design: A randomized controlled trial comparing CPM therapy to static stretching exercises in patients post-total knee replacement. Outcome measures: Primary outcomes included knee flexion ROM and pain levels measured using a validated pain scale.

Results: CPM and static stretching groups demonstrated improvements in knee flexion ROM compared to baseline, no statistically significant difference was found between groups regarding pain reduction.

Conclusions: Static stretching be a viable alternative to CPM for post-total knee arthroplasty rehabilitation, offering benefits in terms of ROM recovery while potentially reducing treatment costs and complexity.

Limitations: Further research needed to explore the long-term effects of each intervention and to identify patient factors that influence treatment response. This study benefit from considering patient-reported functional outcomes alongside pain and ROM measurements.

Keywords: continuous passive motion, static stretching, total knee arthroplasty, ROM, pain, post-operative rehabilitation



International Conference on Physiotherapy Education and Research

Isolated Lumbar Stabilization Exercises Versus Dynamic Lumbar strengthening exercises in patients with spondylolisthesis

Ajay Alexander

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Abstract

Background: Spondylolisthesis is one of back disorders that may cause pain and can produce lumbar curvature changes due to decreased extensor muscles strength. In later stages, it may result in straighten lumbar curvature (flattening), complaining from low back pain, hamstring muscle tightness, pain, numbness, or tingling in the thighs and buttock and lower limb muscles weakness. Purpose to compare between the effects of lumbar stabilization exercises and lumbar dynamic strengthening exercises in patients with spondylolisthesis.

Subjects and Methods

Twenty patients suffering from spondylolisthesis; their age (45-57) and more than 3 months were included in this study. They were randomly assigned into 2 groups; the first group received lumbar isolated stabilization exercises (n=10) and the second group received lumbar dynamic strengthening exercises (n=10). The treatment session was 30 minutes twice a week for 3 weeks in both groups. The strength of the lumbar extensors was measured by isometric torque, at various angles; flexion to extension at intervals. The severity of LBP was measured by visual analog scale (VAS) before and after the two different exercises methods.

Results

Compared with the baseline, lumbar extensors strength at all angles were improved significantly in both groups. The improvements were significantly greater in the isolated lumbar stabilization exercise group. Pain severity level as determined by VAS was significantly decreased after treatment in the isolated muscles lumbar stabilization exercise group than the second group. Initial and final VAS "back pain" results were 76.20 ± 18.05 mm and 34.5 ± 22.09 respectively.

Conclusion

Both lumbar stabilization and lumbar dynamic strengthening exercises increased the strength of the lumbar extensor muscles and reduced LBP in patients with spondylolisthesis. But lumbar stabilization exercises were more effective than lumbar dynamic strengthening exercises for strengthening lumbar extensors and decreasing the Low Back Pain in patients with spondylolisthesis.



International Conference on Physiotherapy Education and Research

Effects Of Eccentric Exercise On Golfer's Elbow

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ABSTRACT

BACKGROUND:

Golfer's elbow is also known as the medial epicondylitis, is a common condition characterized by the pain and inflammation on the inner aspect of the elbow. The most common causes of golfer's elbow include repetitive strain on the forearm muscles, particularly the wrist flexors, which can lead to micro-tears and inflammation. Overuse or repetitive activities, such as golfing, rowing, or weightlifting, can contribute to the development of golfer's elbow. Poor grip strength, inadequate warm-up or cool-down exercises, and incorrect swing mechanics can also put additional stress on the forearm muscles, leading to golfer's elbow.

OBJECTIVES:

To determine the effect of eccentric exercise in reducing pain and improving muscle strength in golfer's elbow.

MATERIAL & METHOD: Twenty consecutive adults with a clinical diagnosis of medial epicondylalgia were treated with eccentric exercise over 3 weeks. There were 11 women and nine men, with a mean age of 47 years, and a mean duration of symptoms of 19 months. Pre assessment and post assessment was taken by Visual Analog Scale(VAS) and Manual Muscle Testing(MMT).

RESULTS:

Three weeks of eccentric training reduced pain and improved muscle strength in patients with medial epicondylitis.

CONCLUSION :

Eccentric exercise is a valuable treatment approach for golfer's elbow, providing several Benefits, that includes :

- Improved muscle strength: Eccentric exercises strengthen the flexor muscles of the forearm, reducing pain and improving function.
- Reduced pain and inflammation: Eccentric exercises have anti-inflammatory effects, reducing pain and inflammation in the affected area.
- Improved elbow function: Eccentric exercises help restore normal elbow function, enabling individuals to perform daily activities and sports without pain.

From the results, we concluded that eccentric exercise is safe, uncomplicated and cost-effective.

KEYWORDS :

Visual Analog Scale,Manual Muscle Testing,medial epicondylitis.



International Conference on Physiotherapy Education and Research

Transcutaneous electrical nerve stimulation for knee osteoarthritis

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Abstract

Background

Knee osteoarthritis (OA) is a degenerative joint disease characterized by pain, stiffness, and functional limitations. Transcutaneous electrical nerve stimulation (TENS) has been proposed as a treatment option for managing knee OA symptoms. Osteoarthritis (OA) is a disease that affects synovial joints, which mainly causes degeneration and destruction of hyaline cartilage. The primary goals for OA therapy are to relieve pain, maintain or improve functional status, and minimize deformity. TENS is a noninvasive modality in physiotherapy that is commonly used to control both acute and chronic pain arising from several conditions.

Objectives

To assess the effectiveness of TENS in the treatment of knee OA. The primary outcomes of interest were those described by the Outcome Measures in Rheumatology Clinical Trials which included pain relief, functional status, patient global assessment, and change in joint imaging for studies of one year or longer. The secondary objective was to determine the most effective mode of TENS application in pain control. To investigate the effectiveness of TENS in reducing pain intensity and improving functional ability in patients with knee OA.

Method

This comprehensive study of existing literature was conducted on 100 patients with knee osteoarthritis. Patients were randomly assigned to either a treatment group receiving TENS or a control group receiving TENS. The TENS treatment was administered for 30 minutes, 3 times a week, for 6 weeks. Outcome measures included pain intensity, functional ability, and quality of life.

Result

The TENS group showed a significant reduction in pain intensity and improvement in functional ability compared to the TENS group at 6 weeks.

Conclusion

TENS is an effective treatment for reducing pain intensity and improving functional ability in patients with knee OA. The results of this study suggest that TENS is a valuable adjunctive therapy for managing knee OA symptoms and improving patients outcome



International Conference on Physiotherapy Education and Research

Effects of Proprioceptive Neuromuscular Facilitation and Balance Training on Activities of Daily Living of stroke survivors with and without Cognitive impairment

Nayana Hiremath

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Background:

Motor training after stroke should be targeted to goals that are relevant to the functional needs of the patient in order to facilitate functional recovery. Therefore, combining Proprioceptive Neuromuscular Facilitation (PNF) And Task-specific Balance Training to facilitate Activities of Daily Living (ADL) on stroke survivors with and without Cognitive impairment was intentioned in this study. Activities of Daily Living are those activities that people must be able to Do routinely to be considered fully independent. Barthel Index is one of the instruments used in measuring ADL. This study Evaluated the effect of 12 months Proprioceptive Neuromuscular Facilitation (PNF) and Task Specific Balance Training on Activities of Daily Living in cognitive impaired and cognitive normal stroke survivors.

Methods:

30 Available stroke survivors were recruited using convenience sampling technique in a quasi-experimental study. Those with and without cognitive deficits were assigned into a cognitive impaired group (CIG) and non-cognitive impaired group (NCIG) Group, respectively. The Proprioceptive Neuromuscular Facilitation comprising rhythmic initiation, repeated contraction, slow reversal and rhythmic stabilization and Task-specific Balance Training TSBT comprising repetitive rising from a chair The Outcome measures applied were mini-mental state examination for determining the neuropsychiatric status of participants at

Baseline Result:

An independent-samples t-test was conducted to compare The Barthel index scores of cognitive and non-cognitive Impaired stroke survivors. The Activities of Daily Living (ADL) in within group Analysis for cognitive impaired stroke survivors showed statistical significant improve ment ($p < 0.05$) as well as that for the non-cognitive group. This outcome showed that both Categories of stroke survivors had improvement after the first four months of exercise intervention.

Conclusion:

There was improvement in Activities of Daily Living (ADL) of the subacute stroke survivors with and without cognitive Impairments after 12 months PNF and Task Specific Balance Training protocol adapted in this study



International Conference on Physiotherapy Education and Research

Comparing effects of cryotherapy and transcutaneous electrical nerve stimulation(tens) on signs and symptoms of delayed onset of muscle soreness(doms) in amateur athletes

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Abstract:

Background:

Although self-limiting, delayed-onset muscle soreness (DOMS) declines performance of the athletes. The aim of the present study was to compare the effects of repeated use of cryotherapy and transcutaneous electrical nerve stimulation (TENS) on signs and symptoms following hamstring delayed onset of muscle soreness DOMS.

Methods:

This study used a randomized controlled trial design. Twenty participants were randomly allocated into a TENS or cryotherapy group. Participants twenty healthy, amateur male soccer

players (age:26±3) determined by convenient non-probability sampling method, participated in the current study. They had no lower extremity injury during the previous year. There was no contraindication for using electrical stimulation or icing. No sensitivity to ice or electrical stimulation was observed during the tests. They had not performed any heavy training two weeks before performing the Tests. Pain, active knee extension range of motion (AROM), triple-hop distance and thigh girth were assessed before 24,48 and 72 hours after inducing DOMS in the dominant hamstrings muscle.

Results:

From the above two groups(group A and group B)the study showed the following Two factor repeated measures analysis of variance showed a significant main effect of time for pain intensity, ROM and triple hop distance, main effect of group for pain intensity and AROM and interaction effects of group x time for pain Intensity and AROM. Tests showed that mean of pain intensity and AROM was changed by cryotherapy group.

Conclusion:

Presence of pain, decreasing AROM and reducing triple hop distance confirmed the induction of DOMS in the hamstrings. Cryotherapy was more effective than TENS for controlling pain and improving AROM after DOMS. Triple hop distance, as a measure of function, was not able to detect dominance of cryotherapy or TENS for controlling DOMS of the hamstrings in spite of repeated use of these interventions. So, cryotherapy was more effective than transcutaneous electrical nerve stimulation.

Keywords:

Delayed onset muscle soreness, Cryotherapy, TENS, Injury, AROM, Hamstrings



International Conference on Physiotherapy Education and Research

Aerobic Exercise as a Therapeutic Intervention for Obesity in Women with Polycystic Ovary Syndrome (PCOS)

Fathima Farsana

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Background: Polycystic ovary syndrome (PCOS) is a hormonal disorder often associated with obesity, insulin resistance, and metabolic syndrome. PCOS is the formation of cyst in ovary nondisjunction of ovaries along with cardinal features of LH hyper secretion. Aerobic exercise has been shown to improve cardiovascular health, insulin sensitivity, and weight management. Obesity can disrupt menstrual cycles, leading to irregular periods and infertility

Objective: To investigate the effects of aerobic exercise on obesity-related outcomes in women with PCOS. Aerobic exercise improves insulin sensitivity, reduced body fat, more regular menstrual cycles, better blood sugar control, decreased inflammation, and potentially improved ovarian function,

Methods: A systematic review of randomized controlled trials examining the impact of aerobic exercise on body mass index (BMI), waist circumference, body fat percentage, and metabolic parameters in women with PCOS. The study duration was about 12 weeks. The inclusion criteria are females, age group between 21 – 30 years, menstrual abnormalities, previously diagnosed PCOS and Obese, BMI > 25. The exclusion criteria are Hypertension, Cardiac conditions, ovarian tumor, Malignancy, Menstrual cyclic day and Normal women.

Results: Aerobic exercise significantly reduced BMI, waist circumference, and body fat percentage in women with PCOS. Aerobic exercise improved insulin sensitivity, glucose metabolism, and lipid profiles. Aerobic exercise has been shown to improve cardiovascular health, insulin sensitivity, and weight management. Obesity can disrupt menstrual cycles, leading to irregular periods and infertility

Conclusion:

Aerobic exercise is a valuable therapeutic intervention for managing obesity and related metabolic complications in women with PCOS. Healthcare providers should recommend regular aerobic exercise as part of a comprehensive treatment plan for women with PCOS. Aerobic training had reduction of symptoms: regular the menstrual cycle, decreased BMI & WHR and quality of life improvement in women with PCOD

Keywords: PCOS, obesity, aerobic exercise, insulin sensitivity, metabolic syndrome. BMI



International Conference on Physiotherapy Education and Research

Comparison of the efficiency of core stabilization exercises and abdominal corset in the treatment of postpartum diastasis recti abdominis

Christy Saju

St. Benedict's college of physiotherapy

Abstract

Background:

Diastasis recti abdominis is a condition characterized by separation of the two bands of abdominal muscles. The common causes are intra-abdominal pressure and hormones such as relaxin that causes the connective tissue to relax further. Abdominal exercises are used to strengthen the core muscles and reduce symptoms. Abdominal corset is used to support the abdominal muscles.

Objective:

To examine the feasibility of three physiotherapy interventions for the treatment of diastasis recti abdominis (DRA): core stabilization exercises, abdominal corset and a combination of exercise and abdominal corset.

Methods:

45 women 6 weeks postpartum who were diagnosed with DRA by a gynecologist/obstetrician were recruited for the study. The women were randomly divided into three groups: core stabilization exercises (1st group), the combination of exercise and abdominal corset (2nd group) and abdominal corset (3rd group). The treatment session for each group continued for 4 weeks. Outcome measurements were pain evaluation, interrectus distance (IRD) measured using ultrasound, trunk flexion strength and endurance, balance with open eyes/closed with a balance board, and Oswestry Disability Index (ODI).

Results:

Statistically significant difference was observed in all outcome measures except the balance eyes closed results in the first group. When the values pre- and post-treatment between the groups were examined, a statistically significant change was observed in trunk flexion strength, trunk flexor endurance, and balance with open eyes/closed parameters.

Conclusion:

Physiotherapy interventions as core stabilization exercises and the abdominal corset can positively impact IRD, trunk flexion muscle strength and endurance, balance and disability in DRA management. The combination of exercise and corset was found more effective in the postpartum process.

Keywords: core strengthening, abdominal corset



International Conference on Physiotherapy Education and Research

The Effect of Core Stability Exercise With Balance Training on Patients With Multiple Sclerosis

Anagha PM

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ABSTRACT

Background: Multiple sclerosis (MS) is a chronic disease characterized by degradation of the central nervous system, myelin which may impair the balance of patients. Multiple sclerosis is a young people's disease, mostly diagnosed in people of 20 to 40 years old and more common in women. Balance disorders are a common concern in people with MS. Core stability exercises are recommended as treatment principles of rehabilitation in patients with balance disorders. Core stability with balance training have been the focus of attention for repairing the stability of some patients

Objective: To assess the effect of core stability with balance training on patients with multiple sclerosis.

Methodology: 20 patients with multiple sclerosis were randomly assigned to Group A for core stability with balance training based on BBS and to Group B for conventional balance training. Each patients received 14 treatment sessions of 30 minutes each. 6 to 10 weeks core exercises are needed for balance improvement in multiple sclerosis. The protocol includes abdominal muscles contraction, dynamic stability program, static and dynamic balance exercises can improve muscle strength, reduce spasticity, regain balance and coordination. Starting with abdominal holding in first weeks, patients will be advised to do 3 sets and 20 repetitions in each set. Patients were evaluated before and after treatment as well as 1-month post-treatment using the Berg balance scale.

Result: At the end of the treatment, Group A showed significant improvements in all outcome measures. Patients who received core stability with balance training based on Berg balance scale (BBS) showed the better clinical outcomes. The activation of core muscles is considered crucial for providing trunk stability and balance.

Conclusion: Core stability with balance training program showed significant effect on static and dynamic balance in patients with multiple sclerosis

Keyword: Multiple sclerosis, balance, core stability



International Conference on Physiotherapy Education and Research

Efficacy of Combined Endurance-Resistance Training Versus Endurance Training In Patients With Heart Failure

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ABSTRACT:

BACKGROUND: The heart failure is a chronic and progressive condition in which the heart muscle is unable to pump enough blood to meet the body's needs for oxygen and nutrients. The important causes of heart failure is coronary artery disease, which leads to reduced blood flow to the heart muscle, is a major cause of heart failure. Other contributing factors include hypertension, diabetes mellitus, and cardiomyopathy, which can damage the heart muscle and lead to impaired pumping function. Endurance - resistance training is beneficial for improving cardiovascular function and also to improve endurance, muscle strength and overall physical fitness. Endurance training is improving exercise capacity and peak oxygen uptake of patients

OBJECTIVES: To determine the effect of combined endurance-resistance training and endurance training in patients after a heart failure, as well as to compare those effects to determine which is more significant to improve quality of life after heart failure.

METHODS: The study applied a randomized, controlled design in which 30 patients with heart failure, were randomly assigned to two groups: endurance training and combined endurance-resistance training group A and group B respectively. Group A performed endurance training for 40 minutes 4 times a week for 3 weeks. The group B performed combined endurance-resistance training for 30 minutes 4 times a week for 3 weeks. Pre assessment and post assessment taken to assess the changes in both group A and group B

RESULTS: Pre assessment and post assessment shows significant difference between group A and group B

CONCLUSION: From the results we suggest that combined Endurance -resistance training is more effective in heart failure patients to improve quality of life than endurance training

Keywords : Combined Endurance - resistance training, endurance training



International Conference on Physiotherapy Education and Research

Recent Advances In Physiotherapy Management For ulnar Nerve Entrapment

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St. Benedict's college of physiotherapy

Abstract

Background: Ulnar nerve entrapment is a relatively common entrapment syndrome second only in prevalence to carpal tunnel syndrome. The potential anatomic locations for entrapment include the brachial plexus, cubital tunnel. Ulnar nerve entrapment is more so prevalent in pregnancy, diabetes, rheumatoid arthritis, and patients with occupations involving periods of prolonged elbow flexion and/or wrist dorsiflexion. The aim of this review was to evaluate available conservative treatment options and their effectiveness for ulnar nerve compression at the elbow.

Objective: The main aim for ulnar nerve entrapment is to relieve pain, compare the efficiency of different physiotherapy approaches, enhance patient satisfaction, prevent long-term damage, improve strength and grip, improve ergonomic and posture.

Methods: Peripheral percutaneous electrode placement. This technique, using a stimulating needle. Ultrasound-guided techniques have also been studied to assess their utility in correcting ulnar nerve entrapment. Endoscopic ulnar decompression shows great promise as a surgical option with minimal incisions.

Result: X-ray and CT play a role in diagnosis when a bony injury is thought to be related to the pathogenesis. MRI plays a role where soft tissue is thought to be related to the pathogenesis. Electromyography and nerve conduction also play a role in diagnosis. Conservative treatment of cubital tunnel syndrome is recommended for patients with intermittent symptoms and without changes in cutaneous sensation or muscle atrophy.

Conclusion: A comprehensive physiotherapy program can be an effective management strategy for ulnar nerve entrapment. By addressing the underlying causes of the condition and promoting optimal recovery, physiotherapists can play a vital role in improving patient outcomes and reducing the risk of future episodes. Early recognition and diagnosis are important for early institution of treatment. A wide array of diagnostic imaging can be useful in ruling out bony, soft tissue, or vascular etiologies, respectively.



International Conference on Physiotherapy Education and Research

Effect of Swiss ball exercises and resistance exercises on respiratory function and trunk control ability in patients with scoliosis.

Akriti Ranjan

St. Benedict's college of physiotherapy

Background

Scoliosis, the most common spinal deformity, is characterized by the spine deviating laterally from the center axis and rotating. Scoliosis causes both exterior deformity and decreased respiratory muscle contraction, restricting movements of the costal bones and trunk. This can progressively exacerbate cardiopulmonary function disorders and cause complications such as

backache. Moreover, the deformity can transpose or press surrounding organs, resulting in functional disorder and decreased lifespan.

Aim

Until recently, scoliosis treatment was decided mainly on the basis of the level of deformation and speed of progression, with little or no regard to its effect on cardiopulmonary function.

Therefore, the present study evaluated and compared the effects of Swiss ball exercise and resistance exercise on respiratory function and trunk control in patients with scoliosis. Subject and methods Forty scoliosis patients were randomly divided into the Swiss ball exercise group (n= 20) and resistance exercise group (n = 20). The Swiss ball and resistance exercise groups performed chest expansion and breathing exercises with a Swiss ball and a therapist's resistance, respectively. Both groups received training 30 min per day, 5 times per week for 8 weeks

Result

Both groups exhibited significant changes in forced vital capacity, forced expiratory volume in one second, and trunk impairment scale after the intervention. However, there was no significant change in the forced expiratory volume in one second/forced vital capacity ratio after the intervention in either group. Meanwhile, forced expiratory volume in one second and trunk impairment scale was significantly greater in the resistance exercise group after the intervention.

Conclusion

Both Swiss ball exercise and resistance exercise are effective for improving the respiratory function and trunk control ability of patients with scoliosis. However, resistance exercise is more effective for increasing the forced expiratory volume in one second and trunk control ability.

Keywords

Scoliosis, Respiratory function, Trunk control ability



International Conference on Physiotherapy Education and Research

Effectiveness of Manual Therapy In Reducing The Risk of Lateral Ankle Sprain In Athletes.

Riya Gupta

St. Benedict's college of physiotherapy

Background:

Lateral Ankle Sprain (LAS) is the most common musculoskeletal injury among highly active and non-active populations. Physiotherapy plays a significant role in reducing pain and improving range of motion (ROM) and functional outcomes in people with Lateral ankle sprain. Ankle sprains are most common in athletes. lateral, medial and high ankle regions are all affected by ankle sprains, with the lateral or inversion ankle sprain being the most prevalent.

Objective:-

The aim of this study is to study the effects of manual therapy ideally based on Mulligan Mobilization with movement.

Subjects and Methods: -

Subjects were 18 to 50 years old, had a unilateral lateral/inversion ankle sprain for the first time, and received ankle immobilization treatment for 2-4 weeks, depending on the injury before the intervention, eight treatment sessions over for four weeks. All patients received standard manual therapy care, which included a compression bandage around the injured ankle and foot that extended above the ankle and immobilization in a posterior ankle brace for no more than two weeks. They were also instructed to elevate their affected leg on pillows while sleeping and apply ice to the skin of the affected ankle for 20 minutes at least three times a day after removing the brace and bandage.

Conclusion:-

The present study adds value to the literature that applying the manual therapy (MWM) reduces pain, improves ankle dorsiflexion and functional ability in patients with grade I or II lateral ankle sprains in athletes. It is further concluded that the subjects treated with MWM significantly is effective in reducing pain and improving ankle function and dorsiflexion reducing the risk of lateral ankle sprain in athletes.

Keywords:-

Lateral ankle sprains, Manual therapy, Mulligan's mobilization with movement, therapeutic exercises.



International Conference on Physiotherapy Education and Research

Effects of Aerobic Versus High Intensity Interval Training on Blood Pressure in Hypertensive Patients

Swaroop Raj P

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Abstract

Background and Introduction: High blood pressure is one of the leading risk factors influencing the global burden of cardiovascular disease. Regular physical exercise has been recommended for the prevention and treatment of hypertension. Lowering of blood pressure and prevention of hypertension is in first instance preferable by lifestyle changes. Aerobic training and Resistance training are the two treatment techniques used in reducing Systolic blood pressure, diastolic blood pressure and heart rate.

Subjects: The sample size of includes 30 subjects. Subjects were randomly divided into two groups. Group A having 15 subjects and group B having 15 subjects. Group A was given aerobic training and Group B was given resistance training.

Method: Group A stretching and low intensity exercises of 10 minutes were given in each training session as warm up prior to training. The aerobic training was given for 3 alternate days in a week at 60-70% of maximum heart rate for 6 weeks upto exhaustion level of the subjects. Group B Resistance training program was given for alternate days for 6 weeks. In resistance training four sets and 10 repetitions were performed by the subjects.

Result: In both the groups, significant improvement occurred in aerobic training and resistance training. Between groups analysis there was significant improvement in aerobic training when compared with resistance training.

Conclusion: Results of the study that in patients with aerobic and resistance training yielded a clinically significant improvement in hypertension. On between Group A and Group B analysis there is significant improvement in aerobic training when compared with resistance training at the end of 6th week. So, the result of the study indicated that aerobic training performed on ground can also bring significant improvement in patients with hypertension.

Keywords: Systolic blood pressure, diastolic blood pressure, heart rate.



International Conference on Physiotherapy Education and Research

Relationship Between Neck Pain, Disability And Head Posture In Women Six Months Post-Delivery

Alina Prasad

St. Benedict's college of physiotherapy

ABSTRACT

Background: In pregnancy and post-partum period, there are different structural, hormonal and physiological changes occurring in women's body. The musculoskeletal changes women undergo are ligamentous and collagenous connective tissue changes that lead to increased joint laxity and hypermobility.

Usually, these hormonally mediated changes return to their normal pre-pregnant state by six months post-delivery. During the postpartum period, women have to deal with emotional and ergonomic stress due to increased responsibilities causing a number of postural changes in them leading to pain which can cause disability and other musculoskeletal discomfort to perform daily activities.

Objectives:

To assess the relationship between neck pain, disability and head posture In women six months post-delivery.

Method:-

A total of 32 women based on inclusion criteria who are between the ages of 25 and 35, females between six to twelve months post-delivery are included. The exclusion criteria was recent fracture or surgery of the cervical spine or shoulder, neurological and cognitive impairments. Numerical Pain Rating Scale (NPRS) and Neck Disability Index (NDI) Questionnaire was used to evaluate neck pain and disability. The forward head posture was measured via cranio-vertebral angle (CV) angle.

Result:

NPRS was positively correlated with NDI and negatively correlated with CV angle. No significant correlation was shown between NDI and CV angle.

Conclusion:

Relationship between neck pain, disability and head posture was assessed using Numerical Pain Rating Scale, Neck Disability Index and Craniovertebral Angle, respectively. The study concluded that women with small craniovertebral angle have a greater forward head posture, and the greater the forward head posture the greater is the pain and Disability.

Keywords:

Correlation, neck pain, neck disability, craniovertebral angle



International Conference on Physiotherapy Education and Research

Effectiveness of isometric exercises on disability and pain of cervical spondylosis:

Gorige mani, Sneha Kamble.
St. Benedict's college of physiotherapy

Abstract

Background:

Neck pain and disability is a significant public health problem with only very few evidence-based treatment option. The aim of this study was to evaluate the effect of isometric exercise on pain and disability of cervical spondylosis.

Methods:

Twenty patients with cervical osteoarthritis and neck pain with age of 27 to 50 years were taken. 20 patients were divided into two groups. In group A 10 patient (5 male and 5 female) group A patients were treated With isometric exercise (static exercise) strengthens weak muscle ls without stimulating pain - sensitive structure such as ligament tendon or neck joint, making them more acceptable to the patient. They cause contraction in a specific group of muscle without changing muscle length, impending involved joint movement and group B have 10 patients (5 males and 5 females) they are treated with conservative management like non steroid anti-inflammatory drugs for 4 weeks.

Results: Basic characteristics, neck disability index score and NDI) and neck pain and deformity scale (NPAD) score were not significantly different between groups at baseline. The exercise arm demonstrated significantly lower scores regarding NDI and NPAD compared to the control arm after 4 weeks. The exercise arm also showed significant within group reduction considering NDI and NPAD scores after 4 weeks. The study was made for two groups (group A and group B) both treatments are effective but group A patients have more improvement without any side effects than group B patients.

Conclusion: Our findings suggested that isometric exercises might be a beneficial treatment for improving pain and disability caused by cervical spondylosis. Isometric exercise is more effective in cervical spondylosis.

Keywords: Isometric exercise, Cervical spondylosis, Neck pain, Disability



International Conference on Physiotherapy Education and Research

Efficacy of the Static Isometric Neck Exercises and Hold- Relax (PNF) Technique to Relive Cervicogenic Headache Among College Students: A Comparative Study

Sherly Gomes

St. Benedict's college of physiotherapy

Background: The word cervicogenic headache is defined as “referred pain perceived in any part of the head caused by primary nociceptive source in musculoskeletal tissues innervated by cervical nerves”. Symptoms is usually unilateral and does not change its side, it begins in neck and spread tohead. Pain, tenderness, stiffness, decreased range of motion etc, are the most common symptoms. Pain can range from dull, deep ache to heavy pressure of severe intensity. In India, college students aged between 17 years – 23 years suggested to have prevalence of about 15.6 % of likely having cervicogenic headache.

Objective: This study is to compare the effectiveness of static isometric exercises over hold relax technique in relieving symptoms in cervicogenic headache. **Materials and Methodology:** Physiotherapy College students having cervicogenic headache were included in the study. This is a study of assessment of pain, range of motion, cervical flexion rotation test among college students who have frequent cervicogenic headache. The study duration was about 2 months including 30 sample size selected according to the inclusion and exclusion criteria.

Results: Unpaired t test was done to compare different parameters in group A and group B. Paired t test was done in group A and in group B to compare pre and post intervention. The Static Neck Isometric Exercises were performed on the students in Group the hold relax puff technique for neck was performed on the students in Group B.

Conclusion: There was decrease in pain in both groups after intervention, patients from static isometric neck exercises and hold-relax [PNF] technique. In comparison of between the groups, it was found that pain was comparatively less in patients receiving static isometric neck exercises than patients receiving hold-relax [PNF] technique.



International Conference on Physiotherapy Education and Research

Effect of Isokinetic Eccentric Management of Chronic Lateral Epicondylar tendinopathy

Abon Binoy

St. Benedict's college of physiotherapy

Introduction:

Chronic lateral Epicondylar tendinopathy, also known as tennis elbow, is a common condition affecting the tendons that attach to the lateral epicondyle of the humerus. It's a relatively common condition, especially among people who engage in repetitive activities that involve gripping or twisting, such as tennis players, golfers, or manual laborers. LET is associated with pain in the lateral epicondyle, attributed to impaired tendon healing, rather than inflammatory or degenerative changes. It most commonly affects the structure of the extensor carpi radialis brevis.

Prevalence:

Epidemiological studies of the general population have reported that the prevalence of LET is 1%-3%.

Objectives:

To determine the effects of isokinetic eccentric training with that of age-, gender-, activity-matched patients receiving a non-strengthening classical rehabilitation. Effects and Benefits of isokinetic exercises in LET: Lateral Epicondylitis Tendinopathy (LET) can have a significant impact on daily life, causing persistent pain and stiffness in the elbow, forearm, and wrist. Individuals with LET may also experience weakness and fatigue in the affected arm, forearm, and hand. Furthermore, LET can impair functional ability, making it hard to perform daily activities, sports, and occupational tasks. Limited range of motion in the elbow and wrist, swollen or tender elbows, and radiating pain. The isokinetic eccentric exercises can be an effective treatment for LET.

- Improve muscle strength and endurance
- Enhance tendon repair and regeneration
- Reduce pain and inflammation
- Improve functional ability and range of motion
- Enhance grip strength and overall elbow function

Conclusion:

Chronic lateral epicondylar tendinopathy is a complex condition requiring a comprehensive treatment approach. A multidisciplinary management strategy incorporating physical therapy, bracing, and pain management can effectively alleviate symptoms, promote tendon healing, and restore functional ability.



International Conference on Physiotherapy Education and Research

Effect Of Deep Breathing Exercises And Relieving Position On Dyspnea In Patients With Copd

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St. Benedict's college of physiotherapy

Background and Purpose - To compare deep breathing and versus relieving position in patients with chronic obstructive pulmonary disease (COPD). Chronic obstructive pulmonary disease (COPD) is a preventable and treatable disease characterized by persistent respiratory symptoms and restricted airflow. The purpose of the study was to find out the best method of addressing the problem in dyspnea and quality of life. To update evidence on the effects of breathing exercise to improve ventilation, exercise capacity, dyspnea and quality of life.

Method:- We conducted an overview of breathing exercises in the treatment of chronic obstructive pulmonary disease (COPD) (pursed-lip breathing, diaphragmatic breathing, whole-body breathing exercises, etc.) including training in relieving positions (forward lean, supported upright in bed, standing etc..). Compared with other treatment methods, breathing exercises are simple to operate. Thirty (30) subjects were taken with dyspnea in COPD to study the effects of deep breathing exercises when compared to relieving positions, 15(fifteen) subjects received deep breathing exercises and other 15(fifteen) relieving positions exercises. Participants were assessed before and after treatment. At the beginning of the study, the participants were randomized according to their age group and GOLD criteria.

Result:- The comparison between group A and group B showed statistically significant improvement. The findings shows that deep breathing exercises were more effective than relieving positions on dyspnea in patients with COPD.

Conclusions:- The study done and analyzed data its is seen that there is significant difference in deep breathing exercises when compared to relieving positions on dyspnea. Based on the results it may conclude that findings of this study suggest deep breathing exercises elicit significant than relieving positions.

Key Words:- controlled breathing, dyspnea.



International Conference on Physiotherapy Education and Research

The effectiveness of low-intensity resistance training on recovery of knee function after ACL reconstruction.

Madere Veeresh

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Abstract:

Background: Anterior cruciate ligament (ACL) injuries of the knee are amongst the most common major injuries in sports. The goal of a rehabilitation program after an ACL reconstruction is to return to sports participation. It has been shown that inadequate quadriceps strength contributes to altered gait patterns following ACL reconstruction. People who have regained high level of quadriceps strength after ACL reconstruction are more likely to return early to their previous sports activity and at the same level as before the injury. Thus, it seems that quadriceps strength is an important determinant for satisfaction after the ACL reconstruction.

Objective: Persistent weakness is a common problem after anterior cruciate ligament (ACL) reconstruction. This study investigated the effects of low-intensity resistance training (LRT) on recovery of knee function after ACL reconstruction.

Method: Men and women aged 18-45 years with isolated ACL rupture who underwent an elective primary ACL reconstruction and subsequent rehabilitation at hospital were recruited consecutively via the operating room list. 15 males and 15 female who were suffered from ACL injury. Subjects were excluded if they had bilateral ACL injury, a previous ACL reconstruction, repair of meniscus in the index knee within the last 5 month, earlier intra articular fracture or osteoarthritis of the knee or if the conventional rehabilitation program could not be followed.

Result: Power in the injured leg was 90% (95% CI 86-94%) of the non injured leg, decreasing to 64% (95%CI 60-69) 7 week s after surgery. During the resistance training phase there was a significant group by time interaction for power (P=0.020).

Conclusion: Low-intensity resistance training during rehabilitation after ACL reconstruction can improve muscle power without adverse effects on joint laxity.

Key words: ACL reconstruction, joint laxity, low-intensity resistance training, muscle power.



International Conference on Physiotherapy Education and Research

Effectiveness of Post- Isometric Relaxation And Isometric Exercises In Non-Specific Neck Pain

Alisiya Jackson

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ABSTARCT

Background: Non-specific neck pain is the most prevailing musculoskeletal disorder which is associated with poor posture and neck strain which may lead to pain and restricted mobility. Non-specific neck pain is described as pain present in the anatomical region of the neck without radiating to the upper limbs. It is estimated that about 70% of the population experiences neck pain throughout the life, with an incidence of 15% to 50%. Physical therapists treat such patients through several means. Post-isometric relaxation technique and Isometric exercise are used in clinical practice.

Objective: The objective of this study is to investigate the effect of post-isometric relaxation technique and isometric exercise in non-specific neck pain.

MMethodology: Thirty patients diagnosed with non-specific neck pain were randomly allocated into two groups. Subjects were selected on the basis of inclusion and exclusion criteria by purposive sampling methods. Subjects of Group A received post-isometric relaxation and Group B received isometric exercises. The experimental group (Group A) and control group (Group B) received 15 subjects each. Subjects were advised to continue exercises regularly, three times a day. The treatment period was of two weeks. All the subjects were evaluated using NPRS (numerical pain rating scale), Universal Goniometer and NDI (neck disability index) respectively.

Results: Out of two groups, subjects of post-isometric group demonstrated significant improvements in NPRS (numerical pain rating scale), ROM (range of motion) and NDI (neck disability index) at the 2-week follow-up compared with those in isometric exercise group.

Conclusion: Post-isometric relaxation is more effective in decreasing pain and disability and improving cervical range of motion as compared to isometric exercises over a period of two weeks in patients having non-specific neck pain.

Keywords: Non-specific neck pain, post-isometric relaxation, range of motion, neck disability index



International Conference on Physiotherapy Education and Research

Effects of modified Pilates on Females with Urinary Incontinence

Greta, Sonia

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ABSTRACT

Background: Urinary Incontinence is a state in which an individual is unable to control urine and may leak it out without reaching to the toilet. The urgency of urine becomes out of control in patients with urinary incontinence. The typical physical therapy treatment for Urinary Incontinence pelvic floor muscle training (PFMT). Considering expansion to standard Urinary Incontinence treatment, Modified Pilates (MP) is a mind body approach including slow, controlled movements zeroing in on posture with breathing exercises that plays towards recovery. Pilates is a type of activity, including a range of movements that both reinforce and increment adaptability of the entire body, rather than having a particular muscle center.

Objective: To determine the effects of modified Pilates on incontinence severity and quality of life in females with Urinary incontinence

Methodology: Subjects (n=25). These subjects will receive modified Pilates along with standard physical therapy. Baseline treatment that was standard physical therapy (pelvic floor muscle training, home exercises plan and life style advice) will be given to the subjects. Outcome measures will be calculated by Symptom Severity Index and Incontinence Quality of Life questionnaire. Females having age (20-45yrs) with stress, urge or mixed Urinary Incontinence, Scoring Symptoms Severity Index more than 4 and BMI more than 25 were enrolled. Participants having history of pelvic malignancy, fecal incontinence, CNS disorders e.g. bell's palsy, Alzheimer's disease, previous gynecological surgery in six months like hysterectomy, tubal ligation etc or had given birth in previous three months were excluded.

Conclusion: It was concluded that modified Pilates combined with standard physical therapy improves urinary incontinence severity and quality of life in females with urinary incontinence.

Keywords: Modified Pilates, Quality of Life, Standard Physical Therapy and Urinary Incontinence.



International Conference on Physiotherapy Education and Research

Stretching Exercises Versus Deep Friction Massage For The Management of Piriformis Syndrome

Keerthana Kiran, Tejal Patil

Abstract

Objective: to compare cross friction massage (CFM) and stretching exercise (SE) in decreasing Pain and disability in patients with piriformis syndrome. Piriformis syndrome is the compression or irritation of sciatic nerve causing pain in low back, hip region radiating to leg and side of foot along with the root of sciatic nerve, numbness, burning sensation, painful bowel Movements, trouble with walking and performing Other functional activities. Magnetic resonance imaging, X-rays of Hip, electromyography, FAIR and faber test are Considered for diagnosis of piriformis syndrome.

Methods: A randomized controlled trial will be conducted non-probability convenience sampling technique Is used for data collection. A total of n=20. Participants between 20-60 years with positive FAIR test with mild to moderate level of disability on (ODI) Is included in the study. A total of n=20 is divided into two Groups, CFM group (n=10) and SE group (n=10). The demographic data is collected in term of Age, gender, height, weight, BMI, sitting and standing duration. Each participant is evaluated Paired samples t-test Is used to analyse with-in group changes in both groups and independent t-test to Compare the effects of both rehabilitation protocols. Physiotherapy Sessions in outpatient department and they were Guided for regular follow up visits. After taking Informed consent from the study participant's Demographic data is collected. Each participant is evaluated for Symptoms of piriformis syndrome on Oswestry Disability Index (ODI). The both CFM and SE groups Received hot pack at gluteal region for 15 minutes Along with stretching of hamstring muscle for 10 Seconds and 10 repetitions per session.

Conclusion: it will be concluded that cross friction massage is more effective in reducing pain and improving functional abilities in patients with piriformis Syndrome as compare to stretching exercises.



SAMATVAM 2025- National Workshop

Integrative Medicine: The Future of Healthcare

To commemorate the International Day of Yoga 2025, the Department of Integrative Medicine, SDUAHER, organized a National Workshop on the theme "Integrative Medicine: The Future of Healthcare". The event was conducted in collaboration with the RL Jalappa Institute of Oncology, RL Jalappa Hospital and Research Centre, Kolar, Sri Devaraj Urs Medical College, Sri Devaraj Urs College of Nursing, and the Research and Development Cell, SDUAHER, Kolar. Funded by the CCRYN, Min. of AYUSH, Govt. of India. The workshop aimed to promote interdisciplinary dialogue and awareness on the evolving role of integrative medicine in contemporary healthcare delivery.

Dr. Ashween Bilagi began the workshop by providing an introduction to Integrative Medicine. He provided insights on how Integrated medicine has helped various groups of individuals from the different departments for their better outcomes over the past years. The contribution of the department in the field of Integrative medicine based on evidence and research work was also elaborated.

The workshop commenced with the auspicious lighting of the ceremonial lamp by our esteemed dignitaries, Dr. D.V.L.N. Prasad, Chief Administrative Officer; Dr. Vengamma B, Hon'ble Vice Chancellor; Dr. Muninarayana C, Registrar SDUAHER, Dr. Prabhakar K Dean and principal of SDUMC, Padma Shri Dr. Gopinath KS, Director R L Jalappa Institute of Oncology; Dr. Kalyani R, Director R & I; Dr. Arvind Natarajan, Dean of the faculty of Allied Health Care professionals symbolizing the pursuit of knowledge and enlightenment.

Dr. Arvind Natarajan, Dean of the faculty of Allied Health Care professionals, extended a warm welcome to all participants with an inspiring inaugural address. This was followed by thoughtful and encouraging remarks from esteemed dignitaries- Dr. D.V.L.N. Prasad, Chief Administrative Officer, Dr. Muninarayana C, Registrar, and Dr. Vengamma B, Hon'ble Vice Chancellor-who addressed the gathering and highlighted the significance of the workshop in advancing interdisciplinary collaboration and professional development.

Dr. DVLN Prasad talked about the importance of blending these paths of integrative medicine into daily work. He also emphasized that the practice of yoga has shown great results, which have been published in numerous papers. Studies have shown to improve the vital lung capacities after practicing pranayamas regularly. The routine practice of yoga improves



SAMATVAM 2025- National Workshop

flexibility and circulation.

Dr. Muninarayana C stated a story about how he has personally felt the importance of yoga through the life of a young female. The story was based on yoga helped in mind control and thus drastically produced positive outcomes in her personal as well as her social life.

Dr. Vengamma B, as a neurologist, also showed her interest in yoga, and how it is very important to have a healthy mind and spirituality while treating the disease. She also talked about many cases that she has witnessed whose health improved after practicing the advised meditation and slogans. Inspiring testimonials/ Experience of Integrative Medicine were given by three breast cancer survivors. They talked about how yoga and breathing exercises helped them to overcome the challenges faced during the treatment. They expressed how yoga helped them to cultivate resilience and well-being during and after the treatment.

Padma Shri Dr. Gopinath KS added introductory remarks where he addressed that this department approached the patient as a Centre, addressing not just the disease but the person as a whole- mind, body, and spirit. Dr. Gopinath K.S. was the first pioneer who started with the idea of integrated oncology. Thus, he provided many insights and his experiences over the years how many cancer patients benefited from the same. The programme conducted was government-funded, as a result of which we were able to approach every corner of the need. As health care evolved, future does not lie in the isolated system but in integration where scientific rigor meets traditional wisdom and where prevention, treatment, and healing go hand in hand.

Dr. Prabhakar K addressed the need for Integrative Medicine in Diabetes and Hypertension. Diabetes and hypertension are not just isolated conditions; they are chronic lifestyle-driven diseases that impact millions globally, leading to serious complications like heart disease, stroke, kidney failure, and more. Sir told an inspiring story about a young man who reduced his weight after doing regular yoga and following an adequate diet. Studies have shown that practices like yoga and meditation improve insulin sensitivity and reduce blood pressure. Integrative care empowers patients, helping them to become active participants in their health journey. Thus, this should be implemented to provide care that is not just clinically effective but also humanly complete. This session was chaired by Dr. Loknath, professor, the department of Surgical oncology.

Dr. Manjunath G N talked about how palliative care is not just about managing pain or symptoms, but it is about preserving dignity, enhancing quality of life, and addressing the



SAMATVAM 2025- National Workshop

emotional, psychological, and spiritual needs of the patient with life-limiting illnesses. It is, above all, a care rooted in compassion, which is why integrative Medicine offers an immense potential. When the evidence-based practices from modern medicine are combined with Ayurveda, Yoga, Music Therapy, Mindfulness, Touch Therapy, spiritual counseling, acupuncture, etc., it brings comfort, peace, and presence even in those vulnerable moments. He also brought about instances where he referred patients in end-of-life care to integrated medicine and has reported finding peace. As health care providers, it is our moral duty not only to extend life but also to enrich what remains in every dimension possible. This session was chaired by Dr Raveesha A, Professor, Department of General Medicine, SDUMC.

Dr. Raghavendra Rao, Director CCRYN, Ministry of AYUSH, Govt. of India spoke on integrative medicine in oncology. Cancer is not just a physical illness- it affects the mind, body, and spirit. While conventional oncology has made tremendous strides in surgery, chemotherapy, radiotherapy, and targeted treatments, patients often continue to struggle with the side effects, emotional distress, and quality-of-life challenges that cancer brings. The goal was not to replace mainstream oncology but the support and enhance it by reducing the toxicity, managing symptoms, boosting immunity, and empowering patient in their healing journey. He also highlighted the flagship events conducted to commemorate International Day of Yoga 2025.

Dr. Purushotham A talked about how mind-body practices like yoga and meditation have been used in the treatment of many illnesses, like depression and anxiety. Studies show how these practices help to reduce cortisol levels and improve mood regulation, ultimately achieving control over the monkey mind, which is the main objective of yoga. The use of ayurvedic herbs like Ashwagandha and Brahmi has been used very often as a complementary treatment. He summarized the various methods of yoga in psychiatric elements on the basis of mild, moderate, and strong evidence. He highlighted the strong evidence of yoga in most of the psychiatric cases. The goal is not to substitute modern psychiatry but to complement and enhance it by addressing not only the neurochemical imbalances but also the emotional, spiritual, and lifestyle factors that deeply influence mental health. This session was chaired by Dr. Kalyani R, Professor & Director of R & I, SDUAHER

The whole Workshop was concluded with a vote of thanks by Dr. Ashween Bilagi with Shanthi Mantra.

SAMATVAM 2025- National Workshop

Photograph - Action picks of the event



Dr.Ashween Bilagi -introduction to Integrative Medicine



SAMATVAM 2025- National Workshop



Lighting of the ceremonial lamp by esteemed dignitaries



SAMATVAM 2025- National Workshop



Welcome address by Dr. Arvind Natarajan



Welcome address by Dr. Arvind Natarajan, Dean FAHP, SDUAHER

SAMATVAM 2025- National Workshop



Address by **Dr. D.V.L.N. Prasad**, Chief Administrative Officer, SDUAHER



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Address by **Dr. Muninarayana C**, Registrar, SDUAHER



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Address by **Dr. Vengamma B**, Hon'ble Vice Chancellor, SDUAHER



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Experience sharing on Integrative Medicine

SAMATVAM 2025- National Workshop



Introductory Remarks by **Padma Shri Dr. Gopinath K S**

SAMATVAM 2025- National Workshop



Dr. Prabhakar K Principal SDUMC & Dean, Faculty of Medicine, SDUAHER



SAMATVAM 2025- National Workshop



Dr. Manjunath G N. HoD, Dept. of Radiation Oncology





Dr. Purushotham A. Assistant Professor, Dept. of Psychiatry



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