

**PROCEEDINGS OF
11TH INTERNATIONAL ADT
CONFERENCE ON
EMERGING TRENDS IN
NEURO-REHABILITATION:
AN ALLIED HEALTHCARE
PERSPECTIVE
(ADT-2023)**

ADVANCED
DIAGNOSTIC TECHNIQUES
2023



DATE: 22ND - 24TH FEBRUARY –2023

Organized by:

Chitkara School of health Sciences,
Chitkara University,
Punjab-140401, India

Sponsored by:

International Brain Research Organization (IBRO), Paris, France

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ABSTRACT:

Proceedings of the 11th International ADT Conference: Emerging Trends in Neuro-rehabilitation: An Allied Health Care Perspective, 22nd to 24th February, 2023, supported by the International Brain Research Organization, Paris France.

EDITORS:

Dr. Sonika Bakshi, Dean Chitkara School of Health Sciences, Chitkara University, Punjab-140401, India

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The 11th International ADT Conference on the theme “Emerging Trends in Neuro-rehabilitation: An Allied Health Care Perspective” supported by the International Brain Research Organization, Paris France, was held in February 2023 at Chitkara University, Punjab, India. The conference covered multiple tracks focusing on various aspects of Neurorehabilitation. All the tracks were covered over a duration of three days in multiple sessions which consisted of expert talks by eminent speakers like Dr. Marc Taub, Chief of vision therapy, Southern college of Optometry, Memphis, USA, Dr. Kriss See and Dr. Kishan Kannan from Malaysia, Oslo group; Dr. Daniella Rutner, Associate Clinical Professor, American Board of Optometry, Chief of Vision Rehabilitation New York, Dr. Priti Arun from Government Rehabilitation Institute for Intellectual Disabilities, Chandigarh, India and other eminent researchers from PGIMER, India and Paras Hospital Mohali, India etc. Over the 3 days, topics such as neurotherapeutics, neuroplasticity, stroke rehabilitation, physiotherapy, occupational therapy and neuro-visual rehabilitation, among others were discussed. The conference provided an excellent platform for oral and poster presentations, to share ongoing and new research topics. The day three of conference concluded with two workshops for students and delegates from different domains of Allied Health Sciences which included a Hands-On workshop on Molecular Techniques and a workshop on Technological Advances in Prosthesis Design and Fabrication in collaboration with Composite Regional Center (CRC) for Skill Development, Rehabilitation and Empowerment of Persons with Disabilities, Sundernagar, H.P.

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ABOUT THE UNIVERSITY

Establishment

In the year 2002, Chitkara Educational Trust established its Punjab campus 30 kilometres from Chandigarh, on the Chandigarh–Patiala National Highway. In the year 2010 Chitkara University was established by the Punjab State Legislature under “The Chitkara University Act”. Chitkara University is one of the best universities in Punjab and recognized by the University Grants Commission with the right to confer degrees as per the Sections 2(f) and 22(1) of the UGC Act, 1956.

Teaching & Activities

The University offers multi-disciplinary programs, all of which are designed to be industry-relevant. From business management programs to programs in nursing and medical laboratory technologies; and from computer science, electronics and mechanical engineering programs, to hotel management and architecture. The Curriculum is delivered in spacious, amphitheatre-style classrooms—fitted with modern information and communication technology (ICT) equipment—and in well- equipped, modern laboratories. Additionally, students are encouraged—and provided relevant facilities—to participate in co- curricular and extra-curricular activities through various clubs and societies on the campus.

Vision

To be a globally recognized organization promoting academic excellence through interdisciplinary applied research and to expand realms of knowledge through innovation.

Mission

To carry out the academic processes in accordance with global standards through active teacher-student-industry participation

To promote research, innovation and entrepreneurship in collaboration with industry, research laboratories and academic institutions of global repute

To inculcate high moral, ethical and professional values amongst our students, faculty & staff

ABOUT CHITKARA SCHOOL OF HEALTH SCIENCES

Healthcare Industry is unquestionably one of the largest and fastest growing industries in the country. It was to address the ever-widening gap between the requirement and actual supply of good quality healthcare professionals that Chitkara School of Health Sciences was established in 2011, exclusively dedicated to the education of healthcare professionals. Since then, growing from strength to strength, we have become the most sought-after school in the region.

We lay an intensive focus on training and developing healthcare professionals who can make a difference in the quality of life of all those who are in need. Our graduates are in great demand by employers across organizations and are gainfully employed in hospitals, rehabilitation centres, polyclinics, industries, training institutions in India and overseas, apart from enjoying the option of private practice.



ABOUT THE CONFERENCE

Chitkara School of Health Sciences at Chitkara University, Punjab has been organizing Advanced Diagnostic Techniques (ADT) Symposium every year, since its inception in 2012. This Symposium has been continuing to encourage the young and innovative minds pursuing career in science and technology, by providing a suitable platform to present their research work and enhance their scientific acumen through interaction with the eminent scientists and field experts. This year we proudly invited our participants to the upgraded version of ADT symposium which is now going to be an INTERNATIONAL CONFERENCE.

The theme of the 11th International ADT Conference “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective” aimed to bring together leading academic scientists, researchers, scholars and students to exchange and share their experiences and research results on all aspects of Neuro-Rehabilitation. ADT2023 was proudly sponsored by the International Brain Research Organization, Paris, France (IBRO). IBRO is the global association of neuroscience societies that has been promoting and supporting neuroscience around the world through training, education, research, outreach and engagement activities.

CONFERENCE COMMITTEE

PATRONS



DR. ASHOK K. CHITKARA
(Chancellor, Chitkara University)



DR. MADHU CHITKARA
(Pro-Chancellor, Chitkara University)

CO-PATRON



DR. ARCHANA MANTRI
(Vice Chancellor, Chitkara University, Punjab)

ORGANIZING CHAIRPERSON



DR. SONIKA BAKSHI
(Dean, CSHS, Chitkara University, Punjab)

ORGANIZING SECRETARY



DR. ABHILASHA SOOD
(Asst. Prof, CSHS, Chitkara University, Punjab)

ORGANIZING COMMITTEE



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Ms. Priti Panwar

Mr. Mohit Sharma

Ms. Srishti Bhardwaj

Case study presentation Team

Dr. Anita Gupta

Dr. Renu Thakur

Ms. Indu Bala

MESSAGES FROM CONFERENCE COMMITTEE



Dr. Ashok K. Chitkara

(Chancellor, Chitkara University)

It gives me immense pleasure to share that Department of Allied Health Sciences, Chitkara School of Health Sciences, Chitkara University, Punjab is organizing the 11th International ADT Conference on “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective” (ADT-2023) from February 22nd to 24th, at Chitkara University, Punjab, India.

The central theme of the conference is “Neuro-Rehabilitation”. The conference will provide an opportunity to bring together leading academic scientists, researchers, scholars and students to exchange and share their experiences and research results on all aspects of Neuro-rehabilitation. The conference will offer a premise for global experts to gather and interact intensively on the topics of neurotherapeutics, neurocritical care, neuroplasticity, neuro-ophthalmology, artificial intelligence, neurodevelopmental disorders, tele medicine, neuro-visual rehabilitation, pharmacology and their roles in Neuro-rehabilitation.

I hope eminent speakers will cover the theme of Neuro-Rehabilitation from different perspectives. I am privileged to say that this conference will definitely offer suitable solutions to the global issues. The success of this Conference is solely on the dedication and efforts of innumerable people who started working on the preparations for almost a year in many ways to make this Conference become a reality. I acknowledge the meeting support funds awarded from the International Brain Research Organization. Eventually I express my special thanks and appreciation to the all.



**Dr. Madhu Chitkara
(Pro-Chancellor, Chitkara University)**

I am pleased to welcome you all to the 11th International ADT Conference on “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective” being organized during 22nd to 24th February, 2023 by Chitkara University, Punjab, India.

Chitkara University Campus is a camouflage wealth of knowledge, innovation and technology that lies within. Chitkara University in itself is a niche of opportunities to all aspiring Health Science faculties and researchers. The events in the conference are targeted towards researchers, practitioners, professionals, educators and students to share their experience, innovative ideas, issues, recent trends and future directions in field of Health Science and Technology.

This conference is a unique forum for exchange of innovative ideas, technical expertise for advancements in this evergreen field. It will include keynote addresses from academicians and paper presentations by researchers and scholars. It is a matter of joy for us to welcome the participants to this conference.

In a nutshell, the conference promises to transcend to a new and unprecedented level of excellence. It is thus the zenith where information and skills meet opportunities and guidance. It is a milestone that one would not desire to miss. I wish ADT - 2023 a grand success.



Dr. Archana Mantri

(Vice-Chancellor, Chitkara University)

It gives me immense pleasure to be a part of the hosting team of 11th International ADT Conference on “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective”. The conference intends to bring together scientists, academicians, researchers and practitioners from different disciplines to discuss concerns related to various techniques in Health science and technology.

I take this opportunity to welcome all the delegates at the conference. On behalf of whole ADT team, I would like to thank all the authors, sponsors and keynotespeakers for their support and co-operation. The rapid development in technologies and changes in lifestyle impose various issues in many countries. The conference ADT - 2023 has been crafted to challenge the hurdles and we are fortunate to have leading speakers to share their experience and perspectives to achieve smart solutions through their innovation. I acknowledge the meeting support funds awarded from the International Brain Research Organization.

I hope that the conference serves as a locus for interdisciplinary, a space for discourse and collaboration. I would like to express my appreciation to the organizing committee for their dedicated efforts to materialize the conference. I hope all the participants will have a fruitful and beneficial experience.

Finally, I congratulate Dean, Secretary, faculties, student representatives and participants for their efforts in organizing and participating in this conference and wish the conference all the success.



Dr. Sonika Bakshi
(Organizing Chairperson)
(Dean, CSHS, Chitkara University)

It is a great honor for me to welcome all the delegates and our eminent speakers and session chairs to the 11th International ADT Conference on “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective”. This conference aims to bring together leading academic scientists, researchers, scholars and students to exchange and share their experiences and research results on all aspects of Neuro-Rehabilitation. The conference is sponsored by the International Brain Research Organization (IBRO), which is the global association of neuroscience societies that has been promoting and supporting neuroscience around the world through training, education, research, outreach and engagement activities. We envision that this conference will give an excellent chance for researchers from various domains of health sciences to exchange ideas and find useful collaborations in this endeavor of ours.



Dr. Abhilasha Sood

(Organizing Secretary)

(Assistant Professor, CSHS, Chitkara University)

A three days International conference on “Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective” on February 22- 24, 2023 is being organized at Chitkara University, Punjab to achieve the well-defined purpose of setting up an important landmark successfully by way of utilizing the activities consisting of expert lectures from exceptional achievers and presentations of researchers in relevant areas in an atmosphere of healthy interaction and sharing. The organizers are thankful to our event partners and sponsors for supporting and making this conference a grand platform for the allied health sciences community. The enlisted topics shall set up a platform of spreading light of the recent technologies and enable us to grow by way of learning from knowledge reserves and absorbing expertise from treasury of learned academicians. I am highly grateful to the members of the team for their effort in making this conference successful.

PROFILE OF SPEAKERS



Dr. Marc Taub (USA)

Dr. Marc Taub is a professor and chief of vision therapy and rehabilitation services at Southern College of Optometry, Memphis, USA. He teaches in the vision therapy and pediatric clinics. Dr. Taub is the Editor-in-Chief of the Optometry & Visual Performance and serves on the review board of Optometry Times. He has written numerous peer reviewed articles and has lectured and presented posters at international, national, and local conferences. He is the lead editor and a multiple chapter author on Visual Diagnosis and Care of the Patient with Special Needs and editor and chapter author on Visual Development, Treatment, and Diagnosis of the Pediatric Patient. Dr. Taub is a Fellow of the American Academy of Optometry and the College of Optometrist in Vision Development and is active in the Optometric Extension Program Foundation.

Expert talk on “**Vision therapy in Neuro-rehabilitation**”



Dr. Kris See (Global Adjunct Fellow, Malaysia)

Dr. Kris See is the Medical Director, Chief Clinical and Innovative Scientist of Osel Group, a private healthcare organization with an extensive presence in therapeutics and collaborative innovative research in Malaysia, Hong Kong, Singapore and US. Under Dr Kris’ leadership, Osel Diagnostic Lab was the first to be conferred the prestigious “Asian Halal Brands Awards” in ASEAN. Although a medical professional with a background in neurosurgery by training, Dr Kris also holds a Master of Science in International Public Health, (Liverpool John Moores University, UK), Master of Artificial Intelligence, (IUBH University of Applied Sciences, Germany) and HMS- SEAL, Harvard University, USA.

He is a recipient of the Malaysia “Top 100 Most Influential Young Entrepreneur” award (2017), Malaysia “Top 100 Most Influential Sustainable Entrepreneur” (2018) by United Nations Global Impact, a subsidiary of United Nations Organization, as well as “JCI Peace Angel Award Malaysia” (2018) for his role in transformative work in Nepal Earthquake Relief Program.

Expert talk on “**Artificial Intelligence in Medicine and Health Care**”



Dr. Narkeesh Arumugam (India)

Dr. Narkeesh Arumugam is serving as a Professor and Head in the Department of Physiotherapy, Punjabi University, Patiala Punjab. His career has been built around basic and innovatory concepts in field of Neurology and Neuro- Rehabilitation and his educational credits as follow PhD, MPT (Neuro), DO (Spain), DOMTP (OCO Canada), PG Mas. Diploma Osteopathy (UK), Diploma in master Chiropractic (Sweden). He is one of the leading Physiotherapists in India and is a superb blend of an Academician, Clinician, Osteopath and a Researcher with a substantial and extensive experience of 23 years. He is providing his services with the utmost dedication in the region of Punjab. His field of research interest is Neurological Disorders. He has published numerous peer-reviewed articles and books. He has received several awards from national and international agencies such as best outgoing student in 1997, Award of Excellence-Physiotherapy professional & Academic Development in Uttarakhand in 2008, Winter Sports -Special Olympic in 2008, Patanjali Award in 2011, Significant Contribution Award in 2013 & 14 etc. He is the member of editorial board of numerous reputable journals from national and international Journals, He acted as a speaker, resource person and subject expert in numerous seminars/conferences/workshops.

Expert Talk on “**Neuroplasticity and Neuro-rehabilitation**”



Dr. Rajat Sandhir (India)

Dr. Rajat Sandhir is currently working as a Professor in Department of Biochemistry in Panjab University, Chandigarh, India. Prof. Rajat Sandhir received his Ph.D. degree in Biochemistry from Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh, India in 1994. His areas of interest are neurobiology. He has edited two books, authored 16 book chapters, and peer-reviewed over 180 top-tier journals. He is the recipient of numerous awards from national and international agencies such as young scientist fellow award, KT Memorial Oration Award 2021 by the Indian Academy of Neurosciences and DVS Jain Award for High Impact Research Paper.

Expert Talk on “**Advancements in Neurotherapeutics and its role in Neuro-rehabilitation**”



Dr. Vikas Saini (India)

Dr. Vikas Saini is currently working as a Professor in Department of Anaesthesia and Intensive Care, PostGraduate Institute of Medical Education and Research, Chandigarh, India. Dr. Vikas Saini received the MD degree in Anaesthesia. He is expertise in Anaesthesia and Intensive Care. He has more than 15 years of teaching and research experience and published over 60 peer-reviewed articles.

Expert Talk on “**Multimodality monitoring in Neurocritical Care**”



Dr. Sonika Bakshi (India)

Dr. Sonika Bakshi is a dental surgeon, a gold medalist in management from University Business School, Panjab University and has done her PhD in Management. She has over 20 years of experience in healthcare industry having worked as a clinician, healthcare management professional as well as an academician. She has been with Chitkara University for over a decade- from the very inception of the Chitkara School of Health Sciences. As a Dean of one of the most renowned healthcare schools in the region, she is spearheading learning and development, research and innovation as well as social outreach and extension activities of her department. Her areas of specialization include Telemedicine, Healthcare IT, Emerging domains in healthcare management and education. She has published more than 70 research articles in various national and international journals.

Expert talk on “**Telehealth for Neurorehabilitation**”



Dr. Abeer Goel (India)

Dr. Abeer Goel is currently associate consultant in Paras Hospitals, Panchkula, Punjab, India. He is renowned Neurologist in Punjab. He has 10 years of experience in Health Care Management. Dr. Abeer Goel received the MBBS degree from Kasturba Medical College, Mangalore, Karnataka, India in 2011. He has obtained his MD degree in Internal Medicine from Mysore Medical College, Mysore, Karnataka, India in 2016 and DM degree in Neurology from Post Graduate Institute of Medical Education & Research, Chandigarh, India in 2021.

He has published many peer-reviewed articles and participated and presented his research findings in various conferences and seminars. He was a member and president of Non-Government Organization named 'Helpline' for 2 years from 2007-2009 serving to assist the Blood Bank in arranging for voluntary blood donations for the needy.

Expert Talk on “**Advancements in Stroke Rehabilitation Therapy**”



Dr. Priti Arun (India)

Dr. Priti Arun is a Professor and Head, Department of Psychiatry at Government Medical College Hospital, Sector 32, Chandigarh, India. Professor Priti Arun is also a Chairperson of Disability Board, GMCH, Chandigarh, India. She also is a Joint Director of Govt. Rehabilitation Institute of Intellectual Disability (GRIID), Additional Director of Mental Health institute and the Nodal Officer of State Resource Centre, Chandigarh. She has more than 32 years of teaching and research experience and has published over 110 peer-reviewed articles. She is an editor in chief of Journal of Disability management and rehabilitation.

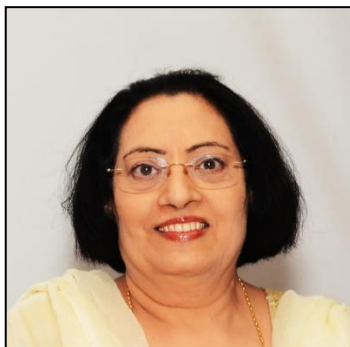
Expert Talk on “**Innovation based special education techniques and approaches to improve the quality of life of children with neurodevelopmental disorders**”

11th International ADT Conference



Dr. Aastha Takkar (India)

Dr. Aastha Takkar is currently working as an Associate Professor in Department of Neurology at Postgraduate Institute of Medical Education & Research (PGIMER), Chandigarh, India. Dr. Aastha Takkar received the MBBS degree from DMCH Ludhiana and MD degree from Sri Guru Ram Das Institute of Medical Sciences and research in year 2009, and DM from PGIMER, CHD in year 2014. She has an expertise in Neurosciences and her field of research are Neuro-Ophthalmology (Salvaging vision, Visual rehabilitation), Electrophysiology (Therapeutic advances into clinical practice), and Strengthen and Maintain Set norms. She has more than 10 years of teaching and research experience and has published over 100 peer-reviewed articles. She has received numerous awards from national and international agencies. Expert talk on “**Neuro-rehabilitation in Neurology and Neuro-ophthalmology-Why and When**”



Dr. Sandhya Gupta (India)

Dr. Sandhya Gupta is currently working as Health Consultant & Life Style Coach (Cert. USA) & National Health Systems Resource Centre (NHSRC), New Delhi, India. Formerly, she worked as principal (actg.) and Associate Professor in College of Nursing, AIIMS, New Delhi, India. She has also worked as a secretary at Indian Nursing Council, Govt. of India. She is also a member and expert group of Mental Health Training, WHO, Geneva, National Nursing and Midwifery Commission, MoHFW, Bureau of Indian Standards, Addiction Psychiatry Society of India, and Indian Association of Health informatics. She has more than 20 years of teaching and research experience. She has published over 159 peer-reviewed articles. She is running various projects funded by various funding agencies.

Expert Talk on “**Psychosocial rehabilitation in traumatic brain injury**”



Dr. Nancy Sahni (India)

Dr. Nancy Sahni is the Chief Dietician & Head, Department of Dietetics, PGIMER, Chandigarh. She has total of 23 years' experience. She is the core group dietician from North India for developing pediatric renal nutrition guidelines, and for Pan India diet study on IBD, renal Core group Dietician-IAPEN India. She has written many book chapters in Nutrition and Nutraceuticals. She has published articles in National and International journals. She has been Secretary, IAPEN Chandigarh Chapter, Joint Secretary, Chandigarh Chapter –IDA, India, and Executive Member, Chandigarh Chapter- Nutrition Society of India.

Expert talk on “**Nutrition and its role in mental health and wellbeing**”



Dr. Aditya Goyal (India)

Dr. Aditya Goyal is currently the Principal of Sankara Vision Academy Sankara Eye Hospital Bangalore, India. He completed M.S. In clinical optometry from Pennsylvania College of Optometry, Salus University and has been practicing the Science and art of optometry since 1991. AdityaGoyal is also an adjunct faculty at Pennsylvania College of Optometry, Salus University, USA. Dr. Aditya is a faculty at a number of colleges across India and lectures widely on topics related to vision therapy, neuro vision, perception, behavioral and developmental optometry, pediatric optometry and low vision rehabilitation.

Expert talk on “**Neuro-visual rehabilitation**”

11th International ADT Conference



Dr. Thakur Gurjeet Singh (India)

Dr. Thakur Gurjeet Singh is currently working as Professor and Dean at Chitkara College of Pharmacy, Chitkara University, Rajpura, India. He obtained his Ph.D. in Pharmaceutical Sciences from Chitkara University. He has published over 170 peer-reviewed articles, 5 book chapters and edited a book. He has published in top-tier journals. He is registered member of Society of Pharmaceutical Education & Research, Pharmacist of Punjab Pharmacy Council, and member of Institutional Animal Ethics Committee (IAEC) of Chitkara University. His area of research interest focuses on Research and Development, Preclinical Studies and Clinical (CRO and Pharmacovigilance, Pharma KPO), Drug Regulatory Affairs.

Expert talk on “**Pharmacists as care providers in Neuro-rehabilitation therapy**”



Dt. Deepika Puri (India)

Ms. Deepika Puri is a M.Sc. in Food & Nutrition with a working experience of 19 years. Serving as a dietician at PGIMER for last 17 years. Certified diabetic educator, keto diet expert and life member of Indian Dietetic Association (IDA), NSI, IAPEN, ISPEN. She has presented various papers in conferences.

Expert talk on “**Role of ketogenic diet in Epilepsy**”

Team Chandigarh Spinal Rehab - Event Partners



Dr. Premjit Singh (India)

Dr. Premjit Singh is physiotherapist at Chandigarh Spinal Rehab has completed his Bachelors in Physiotherapy from CMC, Vellore, with a rich 10+ years of experience in frontline neuro rehabilitation and is also a member of the Institutional Blue CART at CMC Vellore. He has been heading the Spinal Rehabilitation space at Chandigarh Spinal Rehab for the last five years.

Expert talk on “**Physiotherapy in spinal rehabilitation**”



Dr. Baiju Kumar (India)

Dr. Baiju Kumar is an Occupational Therapist and has completed his Bachelors in Occupational Therapy from Pandit Deendayal Upadhyaya National Institute for Persons with Physical Disabilities, Government of India. He has also done his Masters in Occupational Therapy from National Institute for Locomotor Disabilities (Divyangjan) Ministry of Social Justice and Empowerment, Government of India. Dr. Baiju has 3 years of frontline experience in working with the hospital & health care industry, skilled in Orthopedic Rehabilitation, Neurological Rehabilitation, Developmental Disabilities, Clinical Research, ADL (Activity of Daily living), and Assistive Technology and various other streams of occupational therapy.

Expert talk on “**Occupational therapy in spinal rehabilitation**”

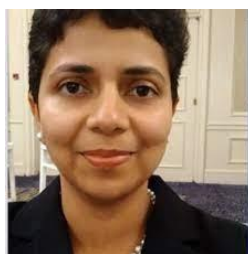
SESSION CHAIRPERSONS



Dr. Rajat Sandhir (Professor)
Department of Biochemistry
Panjab University, Chandigarh, India



Dr. Gurbir Singh (Professor Emeritus)
Chitkara School of Health Sciences
Chitkara University, Punjab, India



Dr. Manju Dhandapani (Associate Professor)
National Institute of Nursing Education
PGIMER, Chandigarh, India



Dr. Harmeet Kaur (Professor cum Principal)
Department of Nursing
Chitkara School of Health Sciences
Chitkara University, Punjab, India



Dr. Nancy Sahni (Chief Dietician and Head)
Department of Dietetics
PGIMER, Chandigarh



Dr. Meenakshi Sood (Professor)
Chitkara School of Health Sciences
Chitkara University Punjab, India



Dr. Amarjot Kaur (Professor)
Chitkara College of Pharmacy
Chitkara University, Punjab, India



Dr. Ravinder Singh (Professor & Head)
Department of Pharmacy Practice
Chitkara University, Punjab, India

11th International ADT Conference Program
 (Supported by IBRO)
“Emerging Trends in Neuro-Rehabilitation: An Allied Healthcare Perspective”
22nd-24th February, 2023

Time	Topic/Event	Resource Person
8:30 AM to 9:30 AM	Registration of Delegate and High Tea	
9:30 AM to 9:50 AM	Inaugural session: Saraswati Vandana and Lamp lighting Welcome note- Dr. Sonika Bakshi (Dean, CSHS)	
9:50 AM to 10:00 AM	Opening of the Conference Sessions	Dr. Archana Mantri (Vice Chancellor Chitkara University, Punjab)
Day 1 Session I		
Track 1- Neurotherapeutics and Brain Imaging Technology		
Track 2- Critical Care		
10:00 AM to 10:20 AM	Expert Talk- Advancements in Neurotherapeutics and its role in Neuro-rehabilitation	Prof Rajat Sandhir Department of Biochemistry Panjab University Chandigarh
10:20 to 10:40 AM	Expert Talk- Neuroplasticity and Neuro-rehabilitation	Dr. Narkeesh Arumugam Professor Department of Physiotherapy Punjabi University, Patiala
10:40 AM to 11:00 AM	Expert Talk- Multimodality Monitoring in Neurocritical Care	Dr. Vikas Saini, Professor Department of Anaesthesia and Intensive Care PGIMER, Chandigarh
11:00 AM to 11:20 AM	Expert Talk- Advancements in Stroke Rehabilitation Therapy	Dr. Abeer Goel Neurologist Paras hospital, Panchkula
11:00 AM Onwards	Poster Presentation Judgement	Exploretorium Lobby
11:20 AM to 12:15 PM	Paper Presentations (Oral)	

Session Chairperson

Dr. Rajat Sandhir

Professor, Department of Biochemistry, Panjab University, Chandigarh, India

Dr. Gurbir Singh

Professor Emeritus, Chitkara School of Health Sciences, Chitkara University, Punjab, India

Paper Presentations

ADT1008

Pharmacological modulation of regulator of G protein signaling 4 attenuates alcohol withdrawal syndrome in mice.

Ashi Mannan¹, Sonia Dhiman¹, Thakur Gurjeet Singh¹.

1 Chitkara College of Pharmacy, Chitkara University, Punjab, India

ADT-3001

Biological cargoes- A new trend in Neurotherapeutics.

Barkha Khurana, Department of Physiotherapy, Chitkara School of health Sciences, Chitkara University, Punjab, India

ADT-8006

Antidepressant like Activity of Cucurbita pepo Peel Extract in Rats

Preeti Gautam¹, Abdul Mehdi Chomal², Nadeem Khan², Manish Kumar¹, Thakur Gurjeet Singh¹

1 Chitkara College of Pharmacy, Chitkara University, Punjab, India

2 Swift School of Pharmacy, Ghaggar Sarai, Patiala, Punjab, India

12:15 PM to 1:30 PM

Lunch break

Day 1 Session II

Track 3- Physiotherapy

Track 4- Psycho-social rehabilitation

1:30 PM to 1:40 PM

Introduction of the Session

1:40 PM to 2:00 PM

Expert Talk-
Psychosocial rehabilitation in
traumatic brain injury

Dr. Sandhya Gupta
Associate Professor
Dept. of Mental Health
Nursing
College of Nursing
AIIMS, New Delhi

Session by Team Chandigarh Spinal Rehab-Event Partners

2:00 PM to 2:20 PM

Physiotherapy and
Occupational therapy in
Spinal rehabilitation

Dr. Premjit Singh
Head Spinal Therapy
Chandigarh Spinal Rehab

Dr. Baiju Kumar
Senior Occupational
Therapist
Chandigarh Spinal Rehab

2:20 PM to 3:20 PM

Paper Presentations (Oral)

Session Chairpersons

Dr. Manju Dhandapani

Associate Professor, National Institute of Nursing Education, PGIMER, Chandigarh, India

Dr. Harmeet Kaur

Professor cum Principal, Department of Nursing, Chitkara School of Health Sciences, Chitkara University, Punjab, India

Paper Presentations

ADT-3002

Electro modulation of neurogenic overactive bladder in sci patients. A systematic review

Priyanka Dangi ¹, Narkeesh Arumugam ¹, Dinesh Suman ²

1 Department of Physiotherapy, Punjabi university, Patiala

2 HOD, Neuro-urology Department, Indian Spinal Cord Injury Centre, New Delhi

ADT4002

A home-based cardiac rehabilitation program improves long-term outcomes of cardiac patients: evidence from Punjab, India

Sawroop Dhillon ^{1,2} and Harmeet Kaur ^{1,2}

1 Chitkara School of Health Sciences, Chitkara University, Punjab, India

2 Centre for Evidence Based Practice in Healthcare, Chitkara University, Punjab, India

ADT-4006

Prevalence of academic Procrastination among the nursing students

Manu Kohli ¹, Navita Gupta¹, Gaurav Kohli¹

1 Chitkara School of Health Sciences, Chitkara University, Punjab, India

Closing of Day 1

Day -2 Thursday, 23rd February, 2023

9:00 AM to 10:00 AM

Judgement for working Model Competition

(Venue: Sportorium, Chitkara University)

Day 2 Session I

Track 5-Optometry

Track 6- Nutrition and Dietetics

9:15 AM to 9:30 AM

Introduction of the Session

9:30 AM to 9:50 AM	Expert talk- Neuro-rehabilitation in Neurology and Neuro- ophthalmology -Why and When.	Dr. Aastha Takkar Associate Professor Department of Neurology PGIMER, Chandigarh
9:50 AM to 10:10 AM	Expert talk- Vision therapy in Neuro- rehabilitation	Dr. Marc Taub Chief Of vision therapy, Southern college of Optometry, Memphis, USA
10:10 AM to 10:30 AM	Expert talk- Nutrition and its role in mental health and wellbeing	Dr. Nancy Sahni Chief Dietician and Head Department of Dietetics, PGIMER, Chandigarh
10:30 AM to 10:50 AM	Expert talk- Role of ketogenic diet in Epilepsy	Ms. Deepika Dietician, Dept of Dietetics, PGIMER, Chandigarh

10:50 AM to 11:30 AM Paper Presentations (Oral)

Session Chairpersons

Dr Nancy Sahni

Chief Dietician and Head, Department of Dietetics, PGIMER, Chandigarh, India

Dr. Meenakshi Sood

Professor and Director Institutional Human Ethics Committee, Chitkara University, Punjab, India

Paper Presentations

ADT-6003

Formulation and Characterization of Fermented Beverage Infused with Herbs

Rashi Aggarwal¹, Shuchi Upadhyay¹

1 Department of Allied health Sciences, School of Health Sciences and Technology, UPES,
Dehradun-248007, Uttarakhand, India

ADT-6004

Formulation and characterisation of chia seed bread

Sana Maqsood¹ and Shuchi Upadhyay¹

1 Department of Allied Health Sciences, School of Health Science and Technology UPES Bidholi
Dehradun UK

ADT-6007

Association of Vitamin B12 and Vitamin D in T2DM patients on Metformin

Ishdeep Singh¹, Vivek Kumar Garg¹

1 Department of Medical Lab technology, UIAHS, Chandigarh University, Gharuan, Punjab, India

Day 2 Session II

Track 7- Health tech, Health care management and Special Education

Track 8- Pharmacy

11:30 PM to 11:35 PM	Introduction of the session	
11:35 to 11:55 PM	Expert talk- Telehealth For Neurorehabilitation	Dr. Sonika Bakshi Dean Chitkara School of Health Sciences Chitkara University, Punjab
11:55 PM to 12:20 PM	Expert talk- Artificial Intelligence in Medicine and Healthcare	Dr. Kris See Medical Director, Chief Clinical and Innovative Scientist, Osel Group. Federal Territory of Kuala Lumpur, Malaysia

12:20 PM to 1:20 PM Lunch break

1:20 PM to 1:30 PM Welcome of delegates after lunch break

1:30 PM to 1:50 PM	Expert talk- Innovation based special education techniques and approaches to improve the quality of life of children with neurodevelopmental disorders	Dr. Priti Arun Professor & Head, Department of Psychiatry, Chairperson, Disability Board Govt Medical College and Hospital Sector 32, Chandigarh Joint Director, Govt Rehabilitation Institute of Intellectual Disability (GRIID)
1:50 PM to 2:10 PM	Expert talk- Pharmacists as Care Providers in Neuro-rehabilitation therapy	Dr. Thakur Gurjeet Singh Dean, Professor, Chitkara College of Pharmacy, Chitkara University, Punjab, India

2:10 PM to 3:00 PM Paper Presentations (Oral)

Session Chairpersons

Dr. Amarjot Kaur

Professor, Chitkara College of Pharmacy, Chitkara University, Punjab, India

Dr. Ravinder Singh

Professor and Head, Department of Pharmacy Practice, Chitkara University, Punjab, India

Paper Presentations

ADT-3006

A Novel Non-invasive Physiopharma Treatment of Knee Osteoarthritis

Roopika Sabharwal¹, Dr Amandeep Singh¹

1 Assistant Professor, Department of Physiotherapy, Chitkara School of Health Sciences, Chitkara University, Punjab

ADT-8004

Pharmacognositic evaluation of fingerprinting, antioxidant potential and Phytochemical screening of hydroalcoholic extract of Thuja occidentalis

Nikhil Garg¹, Shrey Kumar Bhargava¹, Shareen Singh¹, Ashi Mannan¹, Sonia Dhiman¹
Thakur Gurjeet Singh¹

1 Chitkara College of Pharmacy, Chitkara University, Punjab, India.

ADT1007

Counteracting role of nuclear factor erythroid 2-related factor 2 in Parkinson's disease

Veerta Sharma¹ and Thakur Gurjeet Singh¹

1 Chitkara College of Pharmacy, Chitkara University, Punjab, India

3:00 PM to 3:45 PM	Cultural
3:45 PM to 4:00 PM	Prize Distribution
4:00 PM to 4:10 PM	Vote of thanks

Day 3 - 24th February 2023

9:15 AM to 11:15 AM (Online)	Expert Talk- Neuro-Optometric Visual Rehabilitation-Practice Patterns	Dr. Daniella Rutner Associate Clinical Professor University Eye Center and the Chief of Vision Rehabilitation, State University of New York, New York, USA Prof. Aditya Goyal Principal, Sankara Academy of Vision, Sankara Eye Hospital, Bangalore, India
Workshop 1 9:30 AM to 4:00 PM	Hands-On workshop on Molecular Techniques	Venue: GB 410, Galileo Block, Chitkara University, Punjab, India
Workshop 2 10:00 AM to 1:00 PM	Workshop on Technological Advances in Prosthesis Design and Fabrication	Einstein Hall, Galileo Block, Chitkara University, Punjab, India

Valedictory Ceremony

ABSTRACTS

Revealing the heterogeneity of plasma protein and cognitive trajectory among Mild Cognitive Impairment patients by clustering of brain atrophy features

My Nguyen^{1,2}, Bao Pham^{2,3}, Toi Vo^{2,3}, Huong Ha^{2,3*}

¹Faculty of Biology – Biotechnology, University of Science, Ho Chi Minh City, Vietnam

²Vietnam National University – Ho Chi Minh City, Ho Chi Minh City, Vietnam

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Abstract: Recent studies suggested that Alzheimer's disease (AD) is a heterogeneous disorder, presenting differences in developing patterns of brain atrophy. Therefore, this study aimed to tackle this problem by using cluster analysis to investigate the heterogeneity in structural brain changes and plasma biomarkers of the early stage of Alzheimer's disease (AD): Mild cognitive impairment (MCI). Plasma biomarker data and T1-weighted MR scans from MCI patients in the ADNI dataset were included in this study. The baseline MRIs were pre-processed with Freesurfer and were clustered using the CIMLR (Cancer Integration via Multikernel Learning) algorithm. The demographic and cognitive characteristics, brain atrophy, protein patterns, and longitudinal cognitive trajectory were analysed for each cluster. CIMLR clustering analysis results in four distinct clusters: Cluster 1 has moderate progression with dispersed atrophy and the highest concentrations of Leptin, Serotransferrin, and Serine in plasma; Cluster 2 is the most cognitively stable subgroup showing the slowest declination rate, with mild atrophy, low levels of Adiponectin, Leptin, and the highest values of Complement Factor H and Epidermal Growth Factor Receptor; Cluster 3 has a rapid cognitive decline during the 3-year analysis, with mixed atrophy characteristics of Cluster 1 and 4, and high value of Trefoil Factor-3, Neurofilament light chain, and Fatty Acid Binding Protein Heart; Cluster 4 has the highest patient average age, characterized by the largest Lateral Ventricles and CSF Volume, and the highest values of AB42 and Hepatocyte Growth Factor. The longitudinal analysis suggested that NFL and Cortisol are potential prognostic biomarkers of aggressive progression of MCI, and the enlargement of Lateral Ventricles is correlated with the severity of the cognitive decline. MCI subjects who were clinically similar in conventional diagnostic methods showed substantial heterogeneity in brain structural brain atrophy, plasma protein profile and cognitive decline trajectory.

Therapeutic approaches in neurological disorders with deep brain simulations

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Abstract: Although it has been around for many years, the innovation of Neural Stimulation has recently become the focus of research and treatment. The possible uses of stimulating the nervous system and nerves range from spinal cord stimulation to cochlear and bionic eye implantations, with a large disparity in clinical readiness for these various uses. This study is based on relevant publications retrieved by a selective search in PubMed and the Cochrane Library, and on the current guidelines of the German Neurological Society (Deutsche Gesellschaft für Neurologie, DGN). Deep Brain Simulation (DBS) is typically used to treat neurological diseases, most commonly movement disorders and, more specifically, Parkinson's disease. DBS improves tremor, dyskinesia, and quality of life in patients with Parkinson's disease by 25% to 50%, depending on the rating scales used, according to multiple randomized controlled trials (RCTs). DBS for tremor is typically performed by stimulating the cerebello-thalamo-

cortical regulatory loop. In a randomized controlled trial of DBS for the treatment of primary generalized dystonia, patients who received DBS improved their dystonia by 39.3% compared to only 4.9% in the control group. Two multicenter trials of DBS for depression were prematurely terminated due to a lack of efficacy. DBS is a well-established treatment for a variety of neurological and psychiatric conditions. It is now considered a standard treatment for advanced Parkinson's disease and has been incorporated into the DGN guidelines. The application of new technical developments in electrode geometry and new imaging techniques is expected to improve the safety and efficacy of DBS. Controlled trials would be beneficial in extending DBS to additional indications, particularly psychiatric ones.

Counteracting role of nuclear factor erythroid 2-related factor 2 in Parkinson's disease

Veerta Sharma¹, Thakur Gurjeet Singh^{1*}

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Abstract: Redox impairment and neuroinflammation are two prominent pathogenic characteristics of Parkinson's disease (PD). Recent investigations revealed that the most potential target for controlling cellular responses to redox impairment and neuroinflammation is nuclear factor erythroid 2-related factor 2 (Nrf2). Its activation is a powerful method to provide neuroprotection in the central nervous system (CNS). The current review discusses Keap1-Nrf2-ARE structure and function, pathological mechanisms involved in PD with a focus on the numerous pathways involved in the positive and negative modulation of Nrf2, including Phosphoinositide 3-kinase (PI3-K), Glycogen synthase kinase-3 β (GSK-3 β), Mitogen-activated protein kinases (MAPK), p62, AMP-activated protein kinase (AMPK) and nuclear factor kappa-b (NF- κ b).

Pharmacological modulation of regulator of G protein signaling 4 attenuates alcohol withdrawal syndrome in mice

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Abstract: The present study has been designed to investigate the effect of CCG-50014, a potent and selective inhibitor of regulator of G protein signaling 4 (RGS4), on the development of alcohol dependence in a mouse model of spontaneous withdrawal syndrome. Our experimental protocol consisted of administration of Alcohol (2 g/kg, 10%, v/v, oral), once daily for 7 days. Assessment of behavioral parameters and exploratory parameters was done on 7 days after 8 hrs of the last ethanol administration for a period of 120 minutes (90 minutes for behaviour and exploratory parameters and 30 minutes for depression, anxiety and hyper responsiveness parameter). Withdrawal syndrome was quantitated in terms of a composite withdrawal severity score, wall climbing test, exploratory behavior which was confirmed by locomotor activity (LCA) in open field test, reflective of depression like behavior by force swim test, anxiety by elevated plus test, and hyperalgesia by tail flick test. Ethanol withdrawal behaviors were hyper excited (seizures) and this hyperexcitability was behaviorally present in terms of super sensitivity to sub convulsive dose of PTZ (30 mg/kg, i.p). CCG-50014 treatment markedly and dose dependently ($p < 0.05$) attenuated spontaneous alcohol withdrawal syndrome in mice measured in terms of withdrawal severity score, wall climbing, locomotor sensitization by open field test, hyperalgesia, anxiety & depression. Thus, it is suggested that regulator of G protein signaling 4 is involved in the development of alcohol

withdrawal syndrome.

Biological Cargoes: A New Trend in Neurotherapeutics

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Abstract: If we talk about the neurological disorders, especially the neurogenic pain, neuropathies or neurodegenerative disorders, there is still a lot to devote and work upon. The conventional diagnostic and treatment methods may give relief but are time taking and also may not guarantee the complete recovery. According to the UN world health organization (WHO) study, neurological disorders contribute to 6.4% of the global burden of disease and this number is projected to rise in the coming years (6.7% by 2030). Recent advancements in technology have proved a boon for the health sciences. The use of nano particles, for the therapeutic as well as diagnostic purpose will prove a remarkable change in the conventional methods of both. The routes of administration of drugs, whether intra venous, intramuscular or oral route are being adopted till today but the use of nanoparticles with the help of Artificial Intelligence and Digital Electronics will help to cross the biological barriers. The biological cargoes as the name says, may help in speedy diagnosis and treatment, as well. The use of nano particles is a new method of drug delivery system. These nano medicines can help in the treatment of many neurological disorders, such as Dementia, Alzheimer's and neuropathies, as well. The use of biological cargoes will be beneficial for the patients of Neurological disorders and may prove beneficial in speedy diagnosis and recovery. These biological cargoes are designed with keeping in mind the biological, physiological and chemical aspects of the human body. These particles can invade the barriers for therapeutic purpose.

Electromodulation of Neurogenic Overactive Bladder in sci Patients

A Systematic Review

Priyanka Dangi¹, Narkeesh Arumugam^{1*}, Dinesh Suman²

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Abstract: Neurogenic overactive bladder (detrusor overactivity) is among the most challenging medical complication which leads to impair a person health and reduced quality of life. Individual having SCI experienced uncontrolled and spontaneous bladder contraction while bladder starts filling which results in decreased bladder capacity, low compliance and frequent leakages leads to urinary incontinence. Current management including Catheterization strategies, medications and surgical approach are often limited by excessive invasiveness, incompletely address the bladder problem and causes unwanted side effects. To improve the bladder compliance, decreased bladder pressure and inhibit the detrusor overactivity electromodulation is required. The electromodulation technique is the therapeutic approach to reduce the neurogenic detrusor overactivity. The purpose of the review is to determine the various electromodulation techniques used to inhibit the detrusor overactivity in individual with Spinal Cord Injury. An extensive review of literature search in various databases was performed to identify clinical and randomized controlled trials evaluating the role of electromodulation to inhibit the detrusor overactivity in individual with Spinal Cord Injury. The review was limited to English Language studies published prior 2022. These were assessed for their relevance to the focus of interest and appraised for rigour and quality. Medline, Cochrane, EMBASE, CINAHAL, Google Scholar, PubMed and PEDro were used to

search the literature. A combinative approach utilizing electrical stimulation and electromodulation strategies to simultaneously targeting multiple pathways will be beneficial for SCI patients having neurogenic overactive bladder. There is great demand for simple, multifaceted treatment method for maximize the effectiveness of bladder rehabilitation strategy through neuromodulation for NDO patients. The knowledge gained from the systematic investigations into the bladder rehabilitation strategies overactive bladder SCI patients will provide a foundation for the discovery of novel approach.

Antidepressant like Activity of *Cucurbita pepo* Peel Extract in Rats

Preeti Gautam¹, Abdul Mehdi Chomal², Nadeem Khan², Manish Kumar¹, Thakur Gurjeet Singh^{1*}

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Abstract: Antidepressants play a major role in today's life style. There is evidence of the ayurvedic formulation *Cucurbita pepo* being effective in various neuro psychiatric conditions. The present study was performed to evaluate the antidepressant activity of *Cucurbita pepo* peel extracts in rats using Forced swim test (FST) and Tail suspension test (TST). The antidepressant activity of Ethanolic and Aqueous extracts of *Cucurbita pepo* was evaluated in rat models of depression. Depression was induced by Methyl isobutyl ketone (MIBK) (100mg/kg i.p) twice in a day for 30 days. Total 42 rats were used in the study. Rats were randomly divided into 7 groups (6 rats per group). Group 1 and 2 served as normal control and depressed control. Group 3 Imipramine treated (30 mg/kg/p.o), respectively. Groups 4 to 7 served as treatment groups and were orally administered Ethanolic & Aqueous extract of *Cucurbita pepo* (EECP & AECP) at doses of 100 & 200 mg/kg respectively after induction of depression. Following 15 days of treatment, all rats were tested using behavioral models of depression i.e FST, TST and following parameters were monitored i.e SOD, CAT, GPx, TBARS & TC. The results showed that EECP & AECP produced dose dependent decrease in immobility time with the increase swimming time in FST & TST and improved behavioral activity significantly. The significantly increased in the enzymic and non-enzymic antioxidants status in blood i.e SOD, CAT, GPx, TBARS and TC. It also showed that after standard (i.e.,) Imipramine, the ethanolic extract is more potent compared to the aqueous extract. It may be concluded that *Cucurbita pepo* extracts exhibits antidepressant like effects. Therefore, *Cucurbita pepo* may be served as a potential resource for natural psychotherapeutic agent against depression. The findings support the use of *Cucurbita pepo* as potential adjuvant in depressive disorder.

The Impact of Tabata Training on Physical Function in Rehabilitation: A Systematic Review

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Abstract: High-intensity interval training (HIIT) has gained popularity in recent years as an effective means of improving physical fitness. One specific form of HIIT, Tabata training, consists of 8 rounds of 20 seconds of maximum effort exercise followed by 10 seconds of rest. This style of training has shown promise in various

athletic and fitness settings, but its applications in rehabilitation are not well documented. The purpose of this review is to synthesize the current literature on the use of Tabata training in rehabilitation and to evaluate its effects on functional capacity, strength, and endurance in individuals with injury or medical conditions. A comprehensive search of electronic databases was performed, and relevant articles were selected for inclusion based on specific inclusion criteria. The findings suggest that Tabata training can be a safe and effective tool for rehabilitation, provided that it is properly designed and supervised. However, further research is needed to determine the optimal parameters for use in a rehabilitation setting and to assess the long-term effects of Tabata training on physical function.

Effect of Modified Activity Based Therapy on Central Pattern Generator of Locomotion in Individual with Incomplete Spinal Cord Injury: A Single Case Report

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Abstract: Locomotion is a basic motor act which is essential for the survival of humans. The basic muscle synergies which are responsible for body propulsion are generated by the neurons in spinal cord collectively known as Central Pattern Generator for Locomotion. Spinal Cord is the major conduit for the transmission of information between brain and the rest of the body. SCIs are heterogeneous in casualty, severity and location of injury but Locomotion is the ultimate goal for the post-SCI survivors. In order for locomotion to occur, a complex CPG center of Locomotion activation is required. Modified Activity-based therapy (m-ABT) is the cornerstone in the treatment and management of individuals with SCI. To determine the effect of m-ABT on the activation CPG center of Locomotion in individual with Incomplete Spinal Cord Injury. A 35-year-old male patient with Incomplete SCI at the level of D12-L1 is recruited as a participant of the study. The patient was intervened with m-ABT for 45 minutes for 5 days per week for 12 weeks and conventional rehabilitation. Outcome assessment was done using Asia Impairment Scale (motor and Sensory scores), WISCI-II, SCIM-III. Assessment was taken at Day 0, Day 30th and Day 60th post intervention. Improvement was observed in all the outcome measures across the span of 12 weeks. Modified ABT can induce the activation of CPG center of locomotion present at thoraco-lumbar junction and also induces activity dependent plasticity improve the functional status of the patient with incomplete SCI.

Effect of *Asparagus racemosus* Mixed Dietary Supplement for Treatment of Neurological Disorders

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Abstract: Neurological disorders being common health disorders that is leading cause of various disabilities. Neurological disorders also affect a patient's nutritional status by in terms of dietary in-take which leads to several other physiological problems such as dysphagia, mobility difficulties, cognitive impairment, and depression. Moreover, a nutrient-deficient diet might cause central and peripheral nervous system problems. The B-group vitamins, vitamin E, copper, and folic acid are necessary for the normal biological processes as well as the healthy functioning of the brain. Micronutrients include essential vitamins, micro minerals and essential fatty acids. All

micronutrients play an important role in cognitive and neural function as well as the treatment of neurological disorders. Chemical based medicines for treating neurological disorders can be expensive and take a longer time to show its effectiveness in patients with neurological disorders. Plant based treatment have been used for a variety of neurological disorders, including Alzheimer's disease, Parkinson's disease, depression, epilepsy, schizophrenia, anxiety, etc. *Asparagus racemosus*, has been a valuable and putative herb as annotated in Ayurvedic Medicine System proven for its plethora of health benefits. *Asparagus racemosus* is a natural dietary fibre, possesses low-calorie, fat-free, and enriched with vitamins (A, B6, E and folic acid) proteins, and mineral (phosphorus). Based on neuroprotective research, the physiological effects of *Asparagus racemosus* can eventually be used for therapeutic uses or to control various neurological diseases such as stress, anxiety, depression, and Alzheimer's diseases. Since, Asparagus has found to be enriched with vitamins, proteins, minerals, antioxidants, flavonoids, and saponins it can be a great source of dietary intake for patients with neurological disorders. This study, states Asparagus mixed dietary supplement can be used as a powerful medicinal herb for managing the nutritional deficiency in patients with neurological disorders and thereby improving their mental health.

A Novel Non-invasive Physiopharma Treatment of Knee Osteoarthritis

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Abstract: Osteoarthritis is the most common form of arthritis. It is characterized by degenerative changes in the cartilage and the articular surface. Patients usually present with pain and stiffness in the knee joint that leads to functional limitation. The treatment options for this condition includes surgical as well as non-surgical methods. Surgical treatment includes arthroplasty, arthrodesis, etc. Non – surgical options include pharmacological and non-pharmacological treatment with physiotherapy forming the mainstay of non-pharmacological management. The physiotherapy treatment approach for patients with osteoarthritis include application of thermotherapy and electrotherapy modalities like ultrasound, TENS, etc. ‘Acoustic Cavitation’, forms the working principle of therapeutic ultrasound. This is the process of formation of bubbles under the induced ultrasound field when it passes through the body fluids containing vapours. The pharmacological management for osteoarthritis is mainly focused on relief of symptoms and intending to improve the cartilage health. Chondroitin Sulphate (nutraceutical) and Diacerein (anthraquinone) are the most commonly used drugs due to their role in proteoglycan synthesis. The beneficial effects associated with these drugs are overshadowed by the Gastrointestinal and Liver related side effects side effects associated with oral route of administration, thus, paving a way to topical application of these drugs which is an efficient route of administration. It has been established that the combined effect of Chondroitin sulphate and diacerein is harmless and could be used in patients with Osteoarthritis to improve cartilage health which is yet to be explored clinically. The ultrasound can also be used to enhance the permeability of the skin to ensure effective delivery of the drug applied topically. The application of ultrasound based transdermal delivery of drugs through the skin is known as ‘Phonophoresis’. Thus, to counter the side effects, Chondroitin Sulphate and Diacerein may be administered topically along with ultrasonic therapy for deeper penetration of the drug thereby improving cartilage health. Outcome results from the study will be utilized as an adjunct to current treatment guidelines followed for patients with Grade I and II Knee osteoarthritis.

A Home-Based Cardiac Rehabilitation Program Improves Long-Term Outcomes of Cardiac Patients: Evidence from Punjab, India

Swaroop Dhillon ^{1,2*} and Harmeet Kaur ^{1,2}

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Abstract: Heart diseases as the leading cause of death worldwide cause three out of every 5 deaths due to poor facilities for cardiac rehabilitation in the remote/rural areas of India. Thus, the study aimed assess the effectiveness of a home-based cardiac rehabilitation program on long-term outcomes among cardiac patients. An RCT was conducted on 196 cardiac patients receiving treatment at selected hospitals. A home-based cardiac rehabilitation program was given to the subjects in experimental group (n=97) for 12 weeks, starting from the day they came for their first follow-up visit to the concerned physician probably the 3rd-10th day after discharge. The effectiveness of program was assessed in terms of readmission and survival among the participants at 6 months after intervention. Ethical Clearance was obtained from Institution Ethics Committee. The informed written consent was taken from all subjects. Readmissions were significantly lower among cardiac patients in experimental group as compared to patients in control group (28% vs. 52%). Furthermore, the survival probability was three times more among patients in the experimental group as compared to those in control group (Odds ratio=3.133 (CI: 0.82-11.94) (P=0.094). Home-based cardiac rehabilitation program had significantly lowered the readmission and improved chances of survival among cardiac patients. Thus, this study findings serve as important evidence for policy makers to take necessary steps for promoting nurse led home-based cardiac rehabilitation program as recognized therapy in India.

Prevalence of academic procrastination among the nursing students

Manu Kohli^{1*}, Navita Gupta¹, Gaurav Kohli¹

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Abstract: Academic procrastination is postponing or suspending the tasks related to learning until the last gasp or past the deadlines without any personal cause. The students involved in skill-based professional studies usually linger on their academic activities, and the students of the nursing profession are most likely to practice procrastinated behavior. The study aimed to find out the prevalence of academic procrastination and its relationship with self-esteem and time management among students of nursing colleges. The sample comprised 205 nursing students selected by total enumerative sampling method from 3 nursing colleges in Punjab. Procrastination Assessment Scale-students was used to measure academic procrastination and its reasons. Self-esteem and time management were measured using the Rosenberg self-esteem scale and student time management scale, respectively. The data were analyzed using descriptive and inferential statistics. The study's results revealed that over 1/3rd of nursing students procrastinate. Among the reasons for procrastination, task aversiveness, and risk-taking were principal reasons among the students. The results depicted no correlation between academic procrastination, self-esteem, and time management.

Formulation and Characterization of Fermented Beverage Infused with Herbs

Rashi Agarwal¹ and Shuchi Upadhyay^{1*}

¹Department of Allied Health Sciences, school of Health Science and Technology, UPES, Dehradun,
Uttarakhand, India

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Abstract: Fermentation is the process which involves in making chemical changes in organic compound with enzymatic reaction in anaerobic condition. It's a kind of preservation techniques that increases the microbial safety as well as the shelf life of beverage. *Daucus carota* is rich in beta carotenoid also in Vitamin B12. *Bombax Cebia* flower has the presence of beta-Dglucoside, having antipyretic properties. *Ocimum basilium* are rich in phenolic acids, polyphenols, phenolics and flavonoids. *Cinnamomum verum* are high in potassium, calcium and magnesium. It contains the benefit of anti-fungal, anti-bacterial and anti-viral properties. *Brassica Nigra* are rich in minerals and are used in beverage for flavouring purpose. In this research study Carrot (*Daucus carota*) and Simbal doda (*Bombax cebia*) has been fermented along with basil leaves (*Ocimum basilicum*) cinnamon (*Cinnamomum verum*) and mustard seeds (*Brassica nigra*). The fermentation process covers carrot and simbal doda which are emerged in vinegar water (20%+80%) this is comes under sample 1 and 2, then the product shelf life was checked by microbial growth, it was checked on every alternate day once the sample was prepared. Other 3 and 4 sample were prepared by emerging the carrot and simbal doda in water respectively with mustard seeds. Sample 5 and 6 was prepared by emerging carrot and simbal doda in water in presence of herbs respectively. The test performed were pH test, titrable acidity, phenolic compounds, Antioxidant, FTIR, GCMS, moisture content, ash content, ascorbic acid, viscosity, microbial analysis (CFU) count. The end result product provides us increasing shelf-life good nutritive value.

Formulation and characterisation of Chia Seed Bread

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Abstract: Globally, infectious diseases are spreading at an unprecedented rate. Balanced nutrition, which is important to maintain immunity, is essential for strength and management in an infection-affected patient. Specific immune cell subsets in the blood are less abundant and less effective when an infectious illness is present. The tiny chia seeds are a good source of antioxidants and important nutrients including iron, calcium, thiamine, manganese, magnesium, zinc, and phosphorus. They also include several other minerals and vitamins that are good for boosting immunity. Awareness of functional food is important to reduce the risk of viral infection by maintaining strength and immunity. Chia seeds is one of the major cereals to maintain the requirement and recover the losses during any viral infection. Chia is generally well tolerated by most people, including those who are allergic to several other foods. Chia seeds are rich in polyunsaturated fatty acids and are good in omega 3 and 6. Preparation of Chia seeds and multigrain flour bread with functional, dietary, and sensory testing (including advance characterization). The present study is designed to provide a dietary intervention with the support of chia seeds to study the impact and to provide a better source for treatment against viral diseases. The basic formulation of the bread will be prepared in a 2:1:1 ratio where chia seeds, horse gram, and all-purpose flour will be included. While all the wheat flour is used in the making of bread without chia seeds. All the experiments will be analyzed with the controlled group.

Association of Vitamin B12 and Vitamin D in T2 DM patients on Metformin and other Hypoglycemic Drugs

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Abstract: The most prevalent endocrine disorder is diabetes mellitus, and the most frequently prescribed oral hypoglycemic medication is metformin. It is well recognized that metformin can cause vitamin B12 shortage by affecting calcium-dependent membrane function in the terminal ileum, which results in vitamin B12 malabsorption. The main aim of the study is the association of vitamin B12 and vitamin D in patients with T2DM on Metformin. This was an observational and retrospective study. We recruited 100 patients of DM who were taking oral hypoglycemic drugs for more than one year. We categorized them into two groups. 58 patients were on metformin and 42 on other hypoglycemic drugs. 58 patients were on metformin out of which 42 (72.41%) patients and 35(60.34%) were having low levels of vitamin B12 and Vitamin D respectively. 16 (27.59%) patients and 23(39.66%) were having normal values of vitamin B12 and Vitamin D respectively. On comparing, the p-value was highly significant (p=0.000). 42 patients were taken as control which were on other hypoglycemic drugs, out of which 8(19.05%) patients and 13(30.95%) were having low vitamin B12 levels and Vitamin D respectively. 34(76.19%) patients and 29(69.05%) were having normal values of vitamin B12 and Vitamin D respectively. On comparing, the p-value was highly significant (p=0.004). The study concluded that chronic metformin treatment of diabetic patients causes both Vitamin B12 and Vitamin D deficiency. More studies are needed with larger sample size to support our results.

Pharmacognositic evaluation of fingerprinting, antioxidant potential and Phytochemical screening of hydroalcoholic extract of *Thuja occidentalis*

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Abstract: *Thuja occidentalis* (Cupressaceae) has traditionally been used in ayurvedic and folk medicine to treat various conditions ranging from metabolic dysfunction to neurodegeneration. This study aims to determine the antioxidant capacity of hydroalcoholic extract of the aerial part of *Thuja occidentalis*. The phytochemical screening was carried out using various confirmatory tests for phytoconstituents. The amount of quercetin in the extract was determined by using HPTLC densitometric scanning technique by using toluene: ethyl acetate: formic acid (5.7:3.7:6.7) as mobile phase and scanning was performed at 254 nm. The amount of quercetin in the extract was found to be 2.5% w/v. The obtained extract was subjected to ESI- MS/MS finger printing analysis both in positive and negative ion modes. The spectra under positive ion mode proved the presence of Catechine at 288.03m/z, Gallo Catechine at 305.27m/z, Quercetin at 301.23m/z, Kaempferol at 435.04m/z, Procyanidin β -3 at 593.30m/z, Myricitrin at 464.21m/z and Thujone at 151.23m/z as M+1 ion peaks which exactly matches with the reported phenolics from extracts from various parts of *Thuja occidentalis* and in compare with chemotaxonomic evidences of the family cupressaceae. The antioxidant potential of *Thuja occidentalis* was determined by DPPH, H₂O₂, and superoxide scavenging activity, along with the estimation of phenolic and antioxidant capacity. The hydroalcoholic extract of *Thuja occidentalis* (HAETO) revealed that the aerial part of *Thuja occidentalis* possesses various phytoconstituents and is rich in phenolic and flavonoids. Additionally, it exhibits considerable antioxidant activity

as determined by various antioxidant assays compared with standard ascorbic acid. Conclusion: It can be concluded that hydroalcoholic extract of the aerial portion of *Thuja occidentalis* possesses significant antioxidant activity due to various important phytoconstituents like flavonoids and phenolics.

Prevalence of Dermatophytes in tertiary care hospital: A mini review

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Abstract: In recent years, Dermatophytosis in India has reached epidemic proportions. It now has a wide variety of clinical manifestations, including aberrant shape, serious types, and extremely widespread illness across all age ranges. This research was conducted to provide a detailed account of the dermatophytosis situation in India at the present time. The illness has reached a critical mass, and its effects are being felt not only in its native country but also in others, some very far away. a large, complex, and morphologically variable object. If we don't make an effort to learn as much as possible about recalcitrant superficial dermatophytosis, we won't be able to respond quickly enough to prevent it from becoming a global health crisis, and the World Health Organization won't be involved. Although all clinical variations of Dermatophytosis are important, this overview will only focus on the most prevalent kinds seen today. (Examples include *tinea unguium*, *tinea pedis*, and *tinea capitis*.) A systematic scan of the scholarly literature in English was conducted using several different databases. (PubMed, EMBASE, MEDLINE and Cochrane). Medico-legal Subject Headings (epidemiology, clinical indicators, and the diagnosis of dermatophytosis). The clinical manifestations of surface Dermatophytosis have changed dramatically in India. Worldwide, 20-25% of the population will contract a surface fungus illness, the most prevalent of which is produced by dermatophytes. One of the most striking examples is the quick shift from *T. rubrum* to *T. mentagrophytes* as the dominant species, which occurred in less than 10 years.

Isolation, Identification and Characterization of Bacteria Found in UTI Positive Cases.

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Abstract: The purpose of this study is to isolate, identify and characterize the bacteria found in UTI positive cases. The total number of patient's urine samples collected and processed was 1137, out of which 254 showed pathogenic growth while, 227 were found to be bacterial associated infections. The samples were inoculated on blood and MacConkey agar for growth, isolation and identification purposes. The colony of bacteria was observed for physical characteristics and microscopic examination for identification. The gram positive and negative bacteria were classified in different groups for an AST (Anti-biotic sensitivity test). We observed a variety of different bacteria like *Enterococcus fecium*, *Pseudomonas aeruginosa*, *Citrobacter koseri*, *Pseudomonas aeruginosa* etc., out of these pathogens *E. coli* and *Klebsiella pneumonia* were found to be the most commonly occurring pathogens. The AST was done with both manual methods using disk diffusion and automated method

using "Vitek 2 compact". It was concluded that *E. coli* and *Klebsiella pneumonia* are the most commonly occurring pathogens in UTI cases, while, 50.2% (N=114 out of 227) cases caused by *E. coli* and 15.4% (N=35 out of 227) were caused by *Klebsiella pneumonia*. The total number of preferred antibiotics taken during the study is 42 (depending on the type of pathogen), total: 137 cases) are found to be slightly higher than the outdoor patients (OPD: 117 cases). The AST results of overall antibiotics administered in the bacterial samples in UTI cases, Amikacin (73.60%), Ertapenem (81.20%), Teicoplanin (85.71%), linezolid (85.18%), Nitrofurantoin (63.78%), Fosfomycin (82.81%) and Ceftriaxone EDTA sulbactam (92.59%) are the most sensitive antibiotics among all the UTI positive samples.

A Mini Review on Prevalence of Coliform Bacteria in Water

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Abstract: Water is very important for survival, but a lot of the human population has no access to clean, safe drinking water. Water is very important for humans and their mental functions. Water is important for the functioning of the body's vital organs in addition to the transportation of oxygen and nutrients all over the body. Deaths are increasing day by day due to waterborne bacterial infections. There are multifarious uses of water. Water is considered an essence of life since the use of water involves most human activities. From the analysis, 99.3% (455/458) of the total samples were positive for *E. coli* resulting in 496 isolates.

Potential effect of *Citrus sinensis* peel extract against diabetic cardiomyopathy in alloxan-induced diabetic rats

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Abstract: To evaluate the potential effect of ethanolic extracts of *Citrus sinensis* peel against diabetic cardiomyopathy in Alloxan induced diabetic rats. Diabetic cardiomyopathy is one of the major complications among patients with diabetes mellitus. Diabetes was induced by injecting single dose administration of alloxan (150mg/kg, i.p). In the present study 36 rats were divided into 6 groups, each group containing 6 animals; Non diabetic group, Diabetic group, Glibenclamide (10mg/kg, p.o) treated group, *Citrus sinensis* peel extract treated groups (100mg/kg, 200mg/kg, 400mg/kg, p.o). Each extract was administered orally daily for 14 days. Isoproterenol was administered subcutaneously at the dose of 5.25mg/kg and 8.5mg/kg on 12th and 13th days respectively. The following parameters of the diabetic rats were monitored i.e, fasting blood glucose (FBG), Total cholesterol (TC) and high-density lipoprotein (HDL), Creatinine kinase (CK), Lactate dehydrogenase (LDH), Estimation of heart parameters i.e, Total heart protein (THP), Lipid peroxidation (TBAR, SOD & MDA), Reduced glutathione (GSH) and Catalase (CAT). Histopathological studies were performed to study the induction of diabetic cardiomyopathy. Administration of Glibenclamide (10mg/kg, p.o) and *Citrus sinensis* peel showed significant reduction in (FBG), (TC), (HDL), (CK), (LDH), (THP), (TBAR), (SOD), (GSH) and (CAT) as compared to diabetic control rats. *Citrus sinensis* peel at the dose level of (400mg/kg) attenuate the above parameters more significantly as compared to other extracts. Histopathological studies of diabetic rats show increased levels of above parameters lead to diabetic cardiomyopathy. The administration of *Citrus sinensis* peel

(400mg/kg, p.o) was showed significant decrease in necrotic lesions, perivascular oedema and infiltrations of cells as compared to DCM rats. The present study concludes that administration of ethanolic extract of *Citrus sinensis* peel (400mg/kg, p.o) in diabetic rats attenuates the severity and improves the myocardium functioning significantly when compared to other groups treated with different doses of *Citrus sinensis* peel in the alloxan induced diabetic cardiomyopathy in rats. These results suggest that phenolic compounds, flavonoids and terpenoids present in *Citrus sinensis* peel might be responsible for these effects.

Study the Process of Patient Discharge in Super specialty Hospital

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Abstract: Discharge is one of the main process and quality indicators of the hospital. Every hospital has its own discharge process and turnaround time. Hospital discharge plan includes various aspects like clearance from all the departments before billing process and other processes. A good and effective discharge planning has a positive effect on the patient as well the reputation of the hospital and helps in better quality services. The study was conducted in a super specialty hospital, Gurugram for six months. This was an observational study conducted according to payment method both planned and unplanned discharge. The patients discharged from the IPD were observed. Non-probability sampling was used. The data collected through discussion with floor manager, nurses and other service providers. The data was collected including planned and unplanned discharges according to the payment method. In cash discharges, average time taken was three hours and five minutes but benchmark was two hours, in cash international, average time taken was four hours and forty minutes but benchmark was three hours, In TPA discharges, average time taken was five hours and forty-three minutes but benchmark was five hours. The study shows that average discharge time according to specialty was different. In orthopedics, average discharge time was two hours and eight minutes. In general surgery, it was four hours and eleven minutes and in general medicine it was three hours and twenty-seven minutes. Discharging patient is a challenging process for the hospital staff. It requires a proper communication between the staff. The study helps to find out the various causes of delay in discharges. It is important for the hospital management to revise the benchmark annually. Some recommendations were suggested to improve the discharge process.

Effectiveness of multicomponent intervention (MCI) on radiotherapy induced fatigue and its correlates among breast cancer patients: study protocol for a randomised control trial

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Abstract: Globally, cancer is the second most common cause of mortality around the world and is estimated to be a reason for 9.6 million losses of lives in 2018. The treatment of cancer depends on its type and location. Skin changes, hair loss, low blood count etc. are some of the common side effects. Fatigue is one such usual and

persistent side-effect of cancer treatment. This study aims to evaluate the effectiveness of a multicomponent intervention on fatigue and its correlates caused by radiotherapy (RT) in breast cancer patients. A randomized controlled trial which comprises of 50 control group (CG) and 50 multicomponent intervention group (MCIG) was undertaken to assess fatigue, depression, anxiety, sleep quality and nutritional status in 100 women undergoing radiotherapy for breast cancer using the Zung Anxiety self-assessment Scale (SAS), Zung Self-Rating Depression Scale (SDS), Pittsburgh Sleep Quality Index and Scored Patient-Generated Subjective Global assessment (PG-SGA) on 3 separate durations i.e., before, during and after radiotherapy. Clinical data, height, weight, BMI, stage at cancer diagnosis, duration of cancer diagnosis, breast conservation surgery, modified radical mastectomy, type of radiotherapy treatment, dose/ fractions to RT, duration of RT, taking nutritional supplements, mucositis, dermatitis, lymphedema, CTC categorization of lymphedema, dysphagia, chest pain, bone marrow suppression, haemoglobin, red blood cells count, white blood cells count, lymphocytes count, platelets count, Her2neu test and ER/PR status will be recorded. Multicomponent Intervention (MCI) includes a 15-minute pre-recorded video of guided meditation developed by trained guided meditation provider; an information booklet on nutritional management to overcome the side effects caused by radiotherapy in breast cancer patients and with thrice a week SMS reminder for complete compliance monitoring. Cancer patients experience various side effects during their radiotherapy. Psychological interventions like behaviour and cognitive behaviour therapy are expensive and of long durations hence, it can be provided at a clinical setting only. Therefore, this study aims to evaluate the effectiveness of guided meditation, nutritional information booklet and weekly compliance monitoring on radiotherapy induced fatigue & it's corelates among breast cancer patients.

Amblyopia Therapy poor compliance: A Brief Review

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Abstract: Amblyopia is derived from the Greek word, 'amblyos' meaning dull and 'opia' meaning vision, refer to a decrease in best-corrected visual acuity in an eye having no organic pathology. Amblyopia is a neurodevelopment disease brought on by insufficient visual stimulation in the first few years of life. It affects 2 to 3 of every 100 kids and is the most frequent cause of monocular visual acuity impairment in youngsters. The prevalence of amblyopia worldwide is approximately 1%–5%.⁴⁻⁷ The World Health Organization (WHO) estimates 19 million children less than 15 years of age are visually impaired; of those, 12 million are impaired due to uncorrected refractive errors and amblyopia. Prevalence of amblyopia in India was 1.1%. This review aims to highlight the impact of counselling on patients with amblyopia who exhibit low compliance and tranquilly. As there are very few eye care professionals who treat amblyopia at a particular age, counselling may affect how amblyopia is practiced and treated. For this review, various publications were chosen based on the prevalence of amblyopia (n=5), the quality of life and psychosocial implications of amblyopia (n=15), therapeutic hurdles for amblyopia (n=5), and a questionnaire about the mental health of amblyopia patients (n=5). 2.7% was the prevalence, which included both unilateral instances (2.23%) and bilateral cases (0.50%). After collecting document from various aspects, we have chosen best articles on prevalence of Amblyopia (n=5), quality of life and psychosocial effects of Amblyopia (n=15), barriers in treatment for Amblyopia (n=5), questionnaire related to the mental well-being of Amblyopia patients (n=5), selected for this review. Amblyopia may cause lifetime visual function impairment if it is not treated or is not treated properly. Identification of amblyopic individuals at

an early stage is crucial for successful treatment. A substantial percentage of patients in a study on psychological effects of amblyopia on daily life said that amblyopia interfered with their ability to learn (52%) and work (48%) and that it usually impacted their lifestyle (50%) as well as their ability to participate in sports (40%) or make decisions about their line of work (36%). The psychological difficulties brought on by amblyopia may affect a person's social interactions, job, academic achievement, and self-perception.

A review of sports players requires an analysis of visual skills

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Abstract: To understand the demands of visual skills analysis in the sports player of different sports. Visuals skill are the key for a player to perform well in the sport throughout the game. Competitive sports are required a wide range of physical and psychological abilities and the players and trainers always try to improve these skills and visual motor coordination with eye-body movements to improve their performance. Based on these skills sports vision training is introduced which can help to enhance visual skills, speed in motor response, and faster & highly precise sensory system. This is a review article on the visual skills of sports players, we used PubMed as a database to find the research article that was freely available and we included the article which was focused on the sports vision and visual skills importance in sports. There are many studies conducted to show the importance of visual abilities in sports players. Few of them found that the different visual skills such as stereopsis, fixation, response time, etc. are good in athletes as compared to non-athletes. Peripheral visual information reception and processing as well as time movement anticipation was good in the badminton players. Few studies are showing that monocular and binocular vision have their own importance to the different games. This review article will help to understand more about the importance of visual skills in sports. Visual skills are very important for sports players and trainers to perform well in the game. Most of visual skills can be enhanced by sports vision training. It is also important to screen the visual abilities of the sports player to enhance their performance.

Waste Utilisation of Orange Peel Oil to Enhance the Shelf life and Nutritional Value of Soybean Cooking Oil

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Abstracts: Orange belongs to the Rutaceae family and is widely produced and processed around the world for the production of several products, which leads to the production of high-volume orange peel waste. The potential for utilizing food waste to create value is an exciting area of research, and orange peels can be used to produce essential oils with added value. Orange peel contains a significant number of phenolic compounds, phytochemical agents, and ascorbic acid. This present research work is focused on the infusion and characterization of soybean cooking oil with the addition of orange peel oil. The study examines the effects of the infusion of orange peel oil into soybean oil, as well as the changes in the oil's physical and chemical properties. The four samples were selected for this study. The research will also analyze the effects of the infused oil on the

quality and stability of the soybean oil. This paper will discuss the effects of the infusion on oxidative stability, oxidative induction time, peroxide value, and the fatty acid composition of soybean oil. The results of this research will help to provide insight into the potential of orange peel oil as a natural preservative for soybean oil and other edible oils.

Formulation & Characterization of Probiotic Fruit Beverage

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Abstract: Fruit Probiotic beverage is a food supplement, tonic, and nutraceutical produced by the simultaneous fermentation of sugar to acetic acid via ethanol. Raw beverage is a non-fermented product increasing significance by virtue of its widely variable origin and uses particularly as a condiment and food preservative. Presently industries are dealing with the production of natural beverage still uses the traditional batch fermentation which generally spans for about a month, Batch scale technologies for sugarcane beverage fermentation at 50L scale were earlier developed in the laboratory which took about a month to produce beverage. The formulation includes the preparation method for guava fruit beverage which belongs to the technical field of food fermentation. Preparation of the guava fruit beverage involves the steps such as pulping, juicing and mixing, pre-decocting, sugaring, alcoholic fermenting, acetic acid fermenting, filtering, mixing, canning, and sterilizing. The guava fruit beverage disclosed by the invention has strong, fragrant, and unique fruity taste, is not only delicious and nutrient, but also beneficial to improving the body's metabolism and is rich in various vitamins, has special effects of preventing and treating diabetes and lowering the blood sugar, has effects of preventing aging, detoxifying and expelling toxin, is suitable for people of all ages, simple and convenient to operate and is a green and healthy condiment and healthy food.

Nutraceuticals: Management in Perimenopausal Symptoms

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Abstract: Aging population, changing lifestyle, increasing health consciousness and rapid advances in modern medicine are the significant elements for the upsurge of the nutraceutical market worldwide. Since thousands of years medical benefits of food have been explored and nutraceuticals have been found to have many nutritional and therapeutic benefits. Nutraceutical is defined as any food substance containing health promoting components that help in disease prevention beyond basic nutritional functions. Perimenopause is an ill-defined time period that surrounds the final years of a woman's reproductive life. It begins with the first onset of menstrual irregularity and ends after 1 year of amenorrhea has occurred, thereby defining the final menstrual period (FMP). Literature Collection - The relevant studies were searched by screening the PubMed, Medline, Science Direct and Google Scholar database. References of included studies and related articles were also reviewed to find other relevant research papers. It is reported that approximately 90 per cent of women experience disturbing symptoms during the perimenopause including vasomotor symptoms (night sweats, hot flashes), urogenital symptoms (urinary tract infections, sexual dysfunction, low libido), increased cardiovascular risk and psychosomatic symptoms (sleep and mood disturbances). Nutraceuticals like flaxseeds, black cohosh, soy and soy products, red clover, evening

primrose oil, licorice, ginseng, ashwagandha, dong quai have many nutritional and therapeutic benefits in treating and reducing perimenopausal symptoms. In the current scenario, nutraceuticals have gained immense popularity and preferred in combating perimenopausal symptoms and associated health complications.

Evolution from Aviation: Tools to navigate the dynamics of Patient Safety in Hospitals

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Abstract: Patient Safety is one of the disciplines which has gained so much attention these days due to the increased number of cases of medical negligence and the incidence of violence against doctors and other medical staff. The situation emerged to be more complex in nature due to the increased risk of mistakes and errors in treatment, resulting in avoidable harm to the patient. As per World Health Organization (WHO), Patient Safety is defined as a framework of organized activities that creates cultures, processes, procedures, behaviors, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make the error less likely and reduce its impact when it does occur. In 2004 “World Alliance for Patient Safety” project initiated by WHO, targets avoiding any risk or chances of errors during the treatment involving the patient’s safety directly or indirectly. It has discussed about various policies related to safety and aims to be patient-centered during the whole journey of treatment and is taken to be the most dutiful approach receptive to the preferences and patient’s requirements. The concept of Patient safety got its origin from Aviation industry and the fundamental principle of all such High-Risk Organizations (HROs) is a continuous improvement based on learning from previous mistakes and errors. So various interventions to improve the dynamics of patient safety have been introduced which includes checklists having patient’s additional information, safety-related training programs for the whole staff etc. While so many safety schedules and SOPs are being designed and followed, there are certain tools and scales available to measure the impact of above-mentioned interventions in which tracking the accurate predictor is main component. But no standard tool exists to measure safety so existing literature, feedback from experts and individual experience are considered to be an important mode of tracing the gaps and measuring the impact of certain factors like Teamwork, Integrity, Communication and Decision Making which can be done using a variety of fabricated tools: a) Team Dimensions Rating Form (TDRF); b) Safety Attitude Questionnaire (SAQ); c) Oxford Non-Technical Skills Measure (NOTECHS); d) Observational Clinical Human Reliability Assessment (QCHRA); e) Non-Operative Procedure Errors (NOPE); f) Perceived Collaboration & Satisfaction About Care Decisions (CSACD); g) Anesthetists Non-Technical Skills (ANTS) system.

Evaluation of antimicrobial activity of *Mimusops elengi* against pathogenic microorganisms

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Abstract: The current study determines the Pharmacological evaluation of anti-oxidant, antimicrobial activity of ‘Maulsari’ (*Mimusops elengi*) stem bark extracts against gram-negative bacterial strains (*Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus vulgaris*, *Salmonella typhi*) and fungal strains (*S. cerevisiae*, *P. crysogenum*,

A.fumigatus). The antioxidant activity of aqueous and ethanolic extracts of different concentrations (100-500 µg/ml) was studied against DPPH radical scavenging, nitric oxide scavenging and reducing power absorbance is measured after that percentage inhibition and IC50 values are calculated and compared with different concentrations (100-500 µg/ml) of ascorbic acid as standard. For the evaluation of antibacterial and antifungal activity, agar media is prepared then the four bacterial and three fungal strains of microorganisms are selected. The antimicrobial susceptibility tests were performed by standard well diffusion method; the three different concentrations (50, 100, 200 µg/ml) were used for both aqueous and ethanolic extracts. Zones of inhibition are measured and compared with the zones of inhibition of streptomycin (10 µg/ml) as standard for antibacterial activity and fluconazole (25 µg/ml) as standard for antifungal activity. The antioxidant activity of aqueous and ethanolic extracts of stem bark revealed that the plant has a good antioxidant potential. DPPH scavenging activity increased with increase in concentration for both standard and different extracts. In the reducing power assay, absorbance increased with increase in concentration for both standard and sample extracts. Here again ethanolic extract showed the highest reducing power followed by aqueous extract. Reducing power was found to be less for both extracts when compared with the standard. Nitric oxide radical scavenging capacity of extracts and that of standard ascorbic acid was also in a dose dependent manner. The extracts inhibited the growth of *Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus vulgaris* and *Salmonella typhi*. Ethanolic extract showed maximum zones of inhibition for all the four strains ranging from 12.2 – 18.9 mm. Aqueous extract showed maximum activity against *S. typhi* with zone of inhibition 17.6 mm. Both the extracts were active against the selected pathogenic. Moreover, ethanolic extract of *Mimusops elengi* stem bark had the best antifungal activity against three of fungi i.e. *S. cerevisiae*, *P. crysogenum* and *A. fumigatus*. The findings of present study conclude that aqueous and ethanolic extracts of *Mimusops elengi* stem bark, showed the antioxidant and antimicrobial activity.

Targeting LRRK2 modulated mechanisms in Parkinson’s disease

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Abstract: Leucine-rich repeat kinase 2 (LRRK2) is a guanosine triphosphate-binding protein with two catalytic sites, the mutation of LRRK2 gene is pathological cause of Parkinson’s disease. G2019S was shown to be the most prevalent mutation responsible for sporadic and familial occurrences of Parkinson’s disease. In-depth knowledge of how to target LRRK2 to provide effective therapy and prevention strategies for Parkinson disease was provided by this review, which outlined the numerous mechanisms, pathways, proteins, and other factors that contribute to this understanding. The fact that Parkinson’s disease is now incurable despite the availability of such a number of potential cure medications is reason enough to continue to investigate potential new therapies and targets in an effort to extend human life and discover a cure. Neurodegeneration is largely triggered by mutation, over expression, and dysregulation of LRRK2, making it a potential therapeutic target for Parkinson’s disease. These findings suggest that mutated LRRK2 tends to be involved in dopaminergic neurodegeneration in Parkinson’s disease. In conclusion, LRRK2 acts as potential therapeutic target for prevention of dopaminergic neurodegeneration of Parkinson’s disease.

Modulation of Hypoxia inducible factor-1 α pathway in Ischemic Stroke

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Abstract: Cerebral ischemia may result in variety of brain disorders. HIF 1 α (Hypoxia inducible factor-1 α) is an oxygen sensitive transcription factor that regulates the adaptive metabolic response to hypoxia and plays a key role in the pathophysiology of cerebral ischemia. HIF 1 α is gaining popularity as a potential therapeutic target for treating a range of hypoxia-related illnesses because of its vital physiological function. Therefore, the present review focuses on the HIF-1 α structure, relevance and regulatory mechanisms of HIF-1 α in cerebral ischemia, various pathways involved in modulation of HIF-1 α and various therapeutic drugs targeting HIF-1 α in stroke treatment.

Incidence of Myofascial Trigger Points in Athlete: A Systematic Review

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Abstract: The purpose of this study was to gather data on the association of Myofascial Trigger Points (MTrPs) with athletes. As it is a known fact that MTrPs can hamper the performance of any individual. When an athlete works hard hence, more prone to develop MTrPs, hence affecting performance. The data has been taken from the databases of MEDLINE, PubMed and Research Gate, which were searched with a limitation period since 2002. The keywords used were 'Trigger points, Myofascial Trigger points, athletes, players, sportsperson and Myofascial pain Syndrome' as MeSH to find suitable studies. Total of 22 studies were found eligible out of 283 articles from the databases. Out of these 22 articles there were 3 reviews of articles, and 19 experimental articles were found associated with MTrPs and athlete. The most common MTrP is worked upon is Upper Trapezius (27.27%), gastrocnemius (22.72%), followed by different shoulder and scapular group of muscles. Infraspinatus & Teres Minor & Major (18.18%), Subscapularis, Latissimus Dorsi and deltoid consists of 13.63%. The other muscles included are Gluteus Medius, Pectorals, Quadratus Lumborum, Hamstring, Quadriceps and Tibialis Anterior is 4.5%. The most common studied joint for athletes is the Shoulder Joint. Overhead Athletes (31.81%) (including Handball, Volleyball, Baseball or overhead Throwing athletes) was the predominant sportspersons on which research has been done. This is followed by nonspecific sports (27.3%), Basketball (13.63%) and lastly collectively around 27.27% is taken by multiple games like Triathletes, Tennis, Paddle sports, Gymnast, Swimmer and Wrestlers. There are various treatment methods given in the research but there is still a need to find a prevalence of MTrPs in athletes. Most of the research article found on MTrPs in athletes were emphasised on either keeping one muscle, one injury or one movement into consideration This is necessary to find out the association of MTrPs for particular game to improve the performance which is indeed a motive of Treatment of an athlete.

Prevalence of childhood trauma and its relationship with resilience among undergraduate nursing students in India

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Abstract: Childhood trauma is a major etiological predecessor for the occurrence of abnormal psychology later in life. Nurses are more likely to experience burnout, depression, anxiety, and secondary traumatic stress due to the demanding nature of their employment. It is imperative that the rates of childhood trauma in this demographic are established since the effects of childhood trauma on nursing students may have an influence not only on the individual students but also on the patients that he or she may care for. Measuring resilience among undergraduate nursing students is equally important as it has been determined that one of the most important protective qualities in handling these situations is personal resilience. The purpose of this study was to examine prevalence of childhood trauma and its association with resilience among nursing students. 1326 nursing students were included in the current descriptive cross-sectional study, who were chosen using a cluster sampling technique. The Childhood Trauma Questionnaire (CTQ) was used to assess childhood trauma, while the Connor-Davidson Resilience Scale was used to assess resilience (CD-RISC). The data were analysed using descriptive statistics, Pearson chi-square tests, and independent samples t-tests. More than half (65%) of the nursing students reported exposure to some type of childhood trauma. Out of five types of traumas, majority of the students experienced emotional neglect.

Convergence Insufficiency Treatment Efficiency

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Abstract: Convergence insufficiency is defined as failure to retain the convergent near point or to converge the eyes smoothly and effectively as the object of visual focus moves from a distance to close-up. Exophoria or intermittent exotropia at close range can occur from this inadequate muscle movement, which can also lead to loss of correct binocular alignment. It affects 3-5% of the general population, 26% of people who wear corrective lenses, and up to 49% of people who have had a traumatic brain injury. To review from literature the best treatment options for convergence insufficiency and analyze its efficacy. Literature search on various scientific search engines such as PubMed central and google scholar for scholarly list of significant convergence insufficiency treatment methods. In general, asymptomatic people don't need any treatment. Base-in prism reading glasses, pencil push-ups, orthoptics, vision therapy, and office-based vergence/accommodative therapy are all recommended therapies for symptomatic patients. According to recent studies, vision therapy is the most effective cure for convergence insufficiency easing the signs and symptoms of the condition when compared to pencil push-ups, base-in prism glasses. Significant scientific research comparing the efficacy of the most often recommended treatment methods have been published. This essay examines the most recent studies and works on convergence insufficiency. The near point of convergence and fusional convergence can both be improved with vision therapy,

and the symptoms that go along with them can be lessened.

Eye Care Practitioner's Perception to Replacement Schedule of Contact Lenses

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Abstract: Non-compliance to manufactures recommended replacement frequency is expected to result in ocular complications. While many reports the percentage of people who are non-compliant, only some report pay attention to the care and maintenance instructions that eye care practitioners provide to their patients. The goal of this study is to draw attention to the instructions imparted by eye care practitioner to their user and explore the measure taken by them to reduce contact lens non-compliance. Eye care practitioner from Mumbai who were willing to provide consent and share their experience participated in this anonymous online survey which was designed with the help of focused group discussion with a panel of experts. Majority of eye care practitioner had 5 years or more clinical experience in the field of contact lens. About 81% contact lens users in their practice were between the age of 20-29 years. These eye care practitioners believed their contact lens user non-compliant to replacement schedule of contact lens, was 35% due to forgetting the actual day of replacement, 46% as they forget to reorder their lenses, 33% believe to do this to save money, 41% believe contact lens user have lack of time and 36% believe they don't change their lenses as there is no discomfort in continuing. Of all 55% of eye care practitioner agree in giving written information, SMS or telephonic reminder and agreed that increase in follow up would improve compliance. However, 57% of eye care practitioner strongly agree that contact lens practice should be restricted to Eye care practitioner only to increase compliance in contact lens users. Reminders to follow up and to buy contact lens as per their previous purchase can help in reducing majority of non-compliance to replacement schedule. In addition, eye care practitioner strongly agrees to restrict contact lens practice to Eye care practitioner only.

Contact lens wearer's outlook towards recommended replacement schedule of Contact lens in Mumbai

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Abstract: Non-compliance is one of the major reasons of CL related complications. Various research studies have been done over the past three decades to find reasons for patient non-compliances. Use of CLs over the recommended replacement schedule has been one of the major reasons leading to CLs complications. It is evident that the CLs user are often unaware of their non-compliance towards lens care and maintenance regimen. Even after introduction of daily disposable lenses and one-step multipurpose solution non-compliance towards CLs use is still a major problem in CLs patients. The complications due to patient noncompliance can be sometimes irreversible. This research will help us understand CL user reasons of intentionally or unintentionally being non-compliant to recommended replacement frequency. All CL users willing to share their experience participated in this questionnaire based online survey which was designed with the help of focused group discussion. Most of the CL wearer prefer buying pairs for at least 6 months at a time. Almost 80% of CL wearers do not replace their CL as per MRRF. 70% of those who participated wore CL for more than 10 hours per day. The male and female ratio is almost equal in the participants participated in the research. Research done in the past suggest incomplete

knowledge imparted to the wearer or CL forgetting the instructions given to them at dispensing. Research also suggest some CL wearer knowingly are non-compliant to MRRF. This study tries to find loop holes in a CL practice by finding reasons of non-compliance as per CL wearers prospective and probable suggestion from the user itself. An ECP is a paramedical person who has the right to prescribe them, whether according to MRRF or as per their knowledge of the patient's ocular status. For e.g. an antibiotic medicine is supposed to be prescribed for 3 days or 5 days, once or twice is decided by the medical practitioner prescribing. As this research shows over 50% of the CL wearer said that their 'ECP said its okay.

Insight into the Embroidery workers Vision Standards using Grundy visual task analysis

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Abstract: To determine the minimum visual standards required to perform vision specific tasks among embroidery workers of Tamil Nadu. This was cross sectional study conducted at four work stations of Tamil Nadu in Southern India. A total of 67 participants were included in the study after obtaining informed consent from both employee and employers. The subjects underwent complete comprehensive eye examination and a visual field screening. Since the Embroidery field need a high degree of skill, precision, and attention to detail to obtain the maximum efficiency, accommodative facility and near point of convergence also was measured. The work environment was observed and documented based on the Grundy's nomogram. General and occupational history taking was done to understand the work related visual, ocular and musculo skeletal symptoms among embroidery workers. Further data analysis was done using Microsoft Excel and SPSS. 67 participants recruited from three different places (Tirupur 45%, Vellore 34% and Chennai 21%). The mean age of the study participants was: 32±5.84 years. Normal color vision, Visual field, ocular motility and alignment were noted for the participants. The musculo skeletal survey so far resulted neck pain in more than 40% of the participants. The job nature was noted and the minimum distance visual acuity based on the Grundy's nomogram determined to be 6/36 and for the near visual acuity based on the working distance it is N12. This study provides vision standards for embroidery workers from the visual task analysis based on the visual tasks performed. It will also help in their quality of life by increasing their productivity and lower the stress level.

Comparative Study of Hematological Parameter (Complete Blood Count) Before and After C- Section in Iron Deficiency Anemic Patients

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Abstract: Anemia is the commonest hematological disorder effecting mainly young female with hemoglobin concentration (<11gm/dl or less). Caesarean delivery is defined as the delivery of a fetus through surgical incisions made through abdominal wall (laparotomy) and the uterine wall (hysterectomy). Because of more loss of blood during C-section, all these parameters are decreased in pregnant female patients. 80 samples were collected from 40 pregnant females before (group-I) and after (group-II) C-section with an age group of 20 to 40 years from Wani hospital, Anantnag, Kashmir. Data have been collected using designed questionnaire including demographic data

and clinical profile including CBC. The samples were analyzed on a CBC analyzer (celltac alpha). The mean \pm SD of WBC was 8.01 ± 2.94 in group-I and 7.3 ± 2.53 in group-II and P value was 0.00. The mean \pm SD of RBC was 3.37 ± 0.61 in group-I and 3.15 ± 0.59 in group-II and P value was 0.00. The mean \pm SD of Hb was 8.55 ± 1.9 in group-I and 7.73 ± 1.1 in group-II and P value was 0.00. The mean \pm SD of HCT was 26.4 ± 2.97 in group-I and 23.29 ± 3.65 in group-II and P value was 0.00. The mean \pm SD of MCV was 71.89 ± 9.43 in group-I and 68.25 ± 9.95 in group-II and P value was 0.002. The mean \pm SD of MCH was 23.43 ± 4.05 in group-I and 21.21 ± 4.27 in group-II and P value was 0.00. The mean \pm SD of MCHC was 32.43 ± 2.12 in group-I and 28.91 ± 3.13 in group-II and P value was 0.00. The mean \pm SD of PLT was 221.92 ± 105.17 in group-I and 206 ± 97.49 in group-II and P value was 0.143. All hematological parameters were decreased after C-section due to ample amount of blood loss during C-section.

Revolutionizing Healthcare Delivery: An Insightful Review of IoT-based Telemedicine

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Abstract: The integration of the Internet of Things (IoT) technology with telemedicine has revolutionized the way healthcare is delivered. IoT-based telemedicine enables remote monitoring of patients, facilitating timely and efficient delivery of care. In this review, we examine the current state of IoT-based telemedicine, exploring its applications, benefits, and challenges. Our review of the literature highlights the significant progress made in this field, including the development of AI-powered systems, the emergence of 5G and blockchain technologies, and the role of interoperability in telemedicine. Additionally, we discuss the barriers that hinder the widespread adoption of IoT-based telemedicine, including privacy and security concerns, accuracy challenges, and the need for standardized protocols. Lastly, we look at the future prospects of this field, discussing the potential for further advancements and the impact of IoT-based telemedicine on the healthcare industry. This review provides a comprehensive overview of the current state of IoT-based telemedicine, offering insights into its potential for transforming healthcare delivery. The insights presented in this review will inspire healthcare organizations and policy makers to embrace IoT-based telemedicine and take the necessary steps to revolutionize healthcare delivery.

Augmented Reality for teaching: A step towards making learning process more interesting and realistic for Allied Health students

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Abstract: With the growing technological advancement, educational sector is also making amendments. Out of the newer technologies, Augmented Reality (AR) is widely being used in the field of healthcare and education. AR is a technology that superimposes digital content on real world using hardware like smart glasses, headset or smart phone. By enabling 360-degree object visualization and interaction, AR offers a 3D experience. Complex concepts are now easy to comprehend and illustrate due to this. Thus, the learner's mental effort is reduced. The smart devices and digital learning platforms usage has enabled the transformation of conventional educational

system into a smart one. Due to rapid advancement and proliferation of mobile technology, there is a deeper knowledge of AR. Since AR applications are portable, they may be used anywhere and by several users at once, contributing to its widespread adoption in education. AR-VR has made innovative teaching and learning techniques available to medical students and faculties. Due to wide-ranging advantages of AR, numerous programmes have been launched in medical field. These are mostly categorized into two groups. The first entails care strategies helping patients and/or medical staff during clinical procedures like treatment, rehabilitation, or surgeries. The second comprises training courses designed to support classroom teaching and learning objectives. This technology enhances the educational experience by creating secure atmosphere and fostering the development of particular professional skills. The need to advance the abilities of allied health professionals is just as important as the requirement to upskill doctors and nurses. The healthcare team's allied health professionals play crucial role in disease diagnosis, therapeutic treatment, rehabilitation, and prevention. Thus, AR should be adopted to teach Allied Health students so that they will be well prepared in advance to handle the real-life situation, thereby improving patient care and strengthening the healthcare system.

An investigation of the anti-cancer and neuroprotective activity of GQD-conjugates in brain tumor-bearing rats

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Abstract: Glioblastoma, has been recognized as a most perilous and highly malignant type of primary brain tumor. It has a dismal prognosis and only 21 month of average survival rate after combinatory multimodal therapies. Graphene quantum dot possesses advantageous material for fluorescence bio-imaging, and exhibits a unique characteristic of DNA cleavage activity enhancer, gene/drug carrier, and anticancer targeting applications. GQD have been synthesized through bottom-up approached using carbonic precursor and surface passivation agents. The characterization of GQD was done by DLS, TEM, AFM, C13-NMR, and FL. Further surface functionalization of GQD with two GBM biomarkers such as Anti-Her2-Neu antibody and Caspase-8 was developed by Carbodiimide-amidation activation. The prepared conjugation was characterized by FTIR, DLS, FL, and gel-electrophoresis. In-silico molecular docking was also performed to characterize conjugations. The in-vitro cytotoxicity MTT assay was performed with all the GQD conjugates in SK-N-SH and N2a cell lines. The acute and chronic toxicity of synthesized GQD was performed in healthy rats and evaluate hemolytic activity, and CRP levels. The in-vivo assessment of anti-tumor and neuroprotective activity of the developed GQD-conjugates were carried out in previously tumor bearing rats for 14 days. The synthesized quasi-spherical 2-D tiny quantum dots have particle size less than 10 nm validate through DLS, TEM and AFM. The carbodiimide amidation was successfully attached GQD with GBM biomarkers, which were evaluated through FTIR, DLS, and fluorescence spectroscopy. In-silico molecular docking was conformed static interaction between GQD and biomarkers. GQD-conjugates showed dose dependent toxicity in both cell lines and it has mild acute toxicity in rat blood. The GBM tumor bearing rats was assessed to the anti-cancer and neuroprotective activity of the GQD conjugates. Histopathology, IHC, metabolic biomarker and tumor biomarker estimation showed that Caspase-8 conjugate showed better anti-cancer and neuroprotective activity as compared to other conjugates.

Neuroprotective Effect of *Bergenia ciliata* against Intracerebroventricular beta amyloid Induced Cognitive Impairment in Experimental Rats

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Abstract: *Bergenia ciliata* (Haw.) Sternb. Rhizomes (BG), belonging to the Saxifragaceae family, are said to have antioxidant, anti-inflammatory, immunomodulatory, antibacterial, and anticancer properties. It has been observed BG also relieve Parkinson's like symptoms. The oxidative stress is among the key reasons for cognitive impairment noted in sporadic Alzheimer's disease (AD). BG has shown high antioxidant activity, although their role in AD pathology is still unknown. The objective of this research is to understand whether it had any positive effects in a beta-amyloid (A β) induced AD model. The study was performed on Wistar rats, A β was injected through (ICV) on day 1 (5 μ g/5 μ l, unilaterally). BG was given daily (20, 40, and 80 mg/kg b.w/day, p.o.) for 21 days. The result was evaluated on different parameter, Morris water maze (MWM) test was used to assess learning and memory in rats on the 7th, 14th, and 21st days after dosing commenced. From brain homogenate, acetyl cholinesterase, dopamine, noradrenaline, oxidative markers, inflammatory indicators, beta amyloid level, and ROS were measured in brain homogenates. Furthermore, histo and immunohistological studies were performed to investigate cellular level changes in brain tissues. The plethora of results, A β caused severe learning and memory impairment, as well as oxidative stress and a cholinergic deficit. In comparison, BG treatments at different doses were able to dose-dependently reduce A β -induced behavioral impairments and biochemical alteration in rats. We concluded that the antioxidant activity of BG and restoration of cholinergic and dopaminergic functioning might be responsible for the observed cognitive improvement in A β injected rats.

Neuronavigation -Hands of the Techy Neurosurgeons

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Abstract: In the current situation, conserving organs, parts, or maintaining the anatomy is vital for evaluating a surgeon's skill in addition to saving lives, which is unquestionably the biggest importance. Neurosurgery is no different from other surgical specialties in this respect. When we talk about brain surgery, we want it to be successful with every function fully preserved. The brain structure, from the smallest to the smallest, must be preserved because it is critical to the body's function. As a result, with the advancement of Angioplasty, Computed Tomography, and Magnetic Resonance Imaging a more accurate technique that could be used by a surgeon during a neurosurgery was lacking. As a result, a neuro navigation technique was developed to bridge this gap which has become the most adopted technique by all neurosurgeon specifically cranial tumours is concerned. The present day Neuronavigation technique began in mid-90's and since then technological advancements have led wide spread use of this technology by neuro surgeons. This paper attempts to review the use of the neuronavigation technique looking at its advantages and disadvantages specially from the aspect of the neurosurgeon. This technique not only guides, the name implies, but also assists the surgeon in assessing those areas and conserving the important structures with great precision, increasing the surgeon's accuracy and allowing them to attempt difficult and risky cranial tumour removal. As we all know, any brain neurosurgery involves significant risks which the surgeon can

manage confidently through neuronavigation, but this has a significant impact on the operative time and this directly affects the duration of post-operative care, affecting the patient's overall recovery. This technology also requires to be adopted at all neurological surgical centres seeing to the advantages it has. Hence the added training of all the personals and cost which may only be affordable by some patients.

Effect of Community Based Educational package on Quality of life among rural Punjabi postmenopausal women: A Pilot Study

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Abstract: Menopausal onset is a transition between the reproductive and nonreproductive phase of women's lives. It is a sign of the end of menstrual cycle, which is believed to occur following twelve months of menorrhoea, for which there aren't any obvious physical or physiological reasons. It is the beginning of getting older and can accelerate the development of non-communicable illnesses. The average age for menopausal women is between 45 and 55 years old. To assess the efficacy of a Community Based Educational package on the quality of life for the rural Punjabi postmenopausal females. The research plan of the study was an experimental research design was pre-test-post-test design for a control group and the sample comprised of 60 individuals 30 for the experimental group and 30 controls. The sample was chosen by the multi-stage cluster sampling technique Data was taken from the WHO quality of life scale by interviewing techniques. After the initial evaluation of the quality of life an educational community program was offered to postmenopausal women. The post-test was administered within seven days. The result of the study confirms that the quality of life postmenopausal women in the groups that were in the experimental group was significantly higher than the control group following introduction of a community-based educational program, which was statistically confirmed by the Man-Whitney U Test for Knowledge (U=148.00, p<0.001). The quality of life for post-menopausal women improved following the introduction of a community-based education program. This study will provide evidence to plan the enhancement of the health care services targeted at post-menopausal women living in rural India.

Biomolecules: The Future in Treatment

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Abstract: Biomolecules are the fundamental building blocks of life, and they play critical roles in a variety of biological activities. A biomolecule is a living organism-produced organic molecule (e.g., neurotransmitter and metabolite) or macromolecule (e.g., nucleic acid, protein, and lipid). Identification of these biomolecules is critical in infection diagnosis because they act as indicators for the presence of specific microbes. The identification of certain carbohydrates on the surface of bacteria, for example, can be used to determine the presence of a specific species. Furthermore, research into the proteins and enzymes produced by bacteria can reveal information on their virulence and pathogenicity, which can aid in the development of more effective treatments. Plant-derived biomolecules have sparked significant interest in recent years due to their prospective

applications in sectors such as medicine, neuropsychopharmacology, and clinical microbiology. Plants include a wealth of biologically active biomolecules such as alkaloids, flavonoids, tannins, and terpenoids. These chemicals exhibit a variety of biological actions, including antibacterial, anti-inflammatory, and anticancer effects. Furthermore, plant-derived macromolecules including starch, cellulose, and pectin are widely employed as food additives and thickening agents. Plant-derived biomolecules have been employed as natural therapies in the treatment of many diseases and health issues in the realm of medicine. The opium poppy, for example, yields alkaloids such as morphine and codeine, which are used as pain relievers. Furthermore, flavonoids like quercetin have been demonstrated to have strong antioxidant and anti-inflammatory properties, making them effective in the treatment of a variety of chronic disorders. In conclusion, biomolecules generated from plants have many uses in a variety of industries, such as pharmaceuticals, health sciences, and medicine. To completely comprehend their biological functions and possible uses, more study is required.

Beneficial Role of *Cinnamomum Tamala* to Attenuate the Diabetic Cardiomyopathy in Rats

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Abstract: To evaluate the beneficial role of *Cinnamomum tamala* leaves to attenuate diabetic Cardiomyopathy in STZ induced diabetic rats. Diabetic Cardiomyopathy is one of the major complications among patients with diabetes mellitus. Diabetes was induced by injecting single dose administration of STZ (65mg/kg, i.p). In the present study 36 rats were divided into 6 groups, each group containing 6 animals; Non diabetic group, Diabetic group, Glibenclamide (10mg/kg, p.o) treated group, Co administration of Glibenclamide (5 mg/kg) and ethanolic extract of *Cinnamomum tamala* (250 mg/kg), *Cinnamomum tamala* leaves extract treated groups (250mg/kg&500mg/kg, p.o). Each extract was administered orally daily for 14 days. Isoproterenol was administered subcutaneously at the dose of 5.25mg/kg and 8.5mg/kg on 12th and 13th days respectively. The following parameters of the diabetic rats were monitored i.e, Fasting blood glucose (FBG), Total cholesterol (TC) and high-density lipoprotein (HDL), Creatinine kinase (CK), Lactate dehydrogenase (LDH), Estimation of heart parameters i.e, Total heart protein (THP), Lipid peroxidation (TBAR, SOD & MDA), Reduced glutathione (GSH) and Catalase (CAT). Histopathological studies were performed to study the induction of diabetic cardiomyopathy. Administration of Glibenclamide alone, extract of *Cinnamomum tamala* alone and combination of both of these showed significant reduction in (FBG), (TC), (HDL), (CK), (LDH), (THP), (TBAR), (SOD), (GSH) and (CAT) as compared to diabetic control rats. *Cinnamomum tamala* leaves at the dose level of (500mg/kg) and in combination with Glibenclamide attenuate the above parameters more significantly as compared to other extracts. Histopathological studies of diabetic rats' show increased levels of above parameters lead to Diabetic Cardiomyopathy. The administration of *Cinnamomum tamala* leaves (500mg/kg, p.o) was showed significant decrease in necrotic lesions, perivascular edema and infiltrations of cells as compared to DCM rats. The present study concludes that administration of ethanolic extract of *Cinnamomum tamala* leaves (500mg/kg) alone and in combination with Glibenclamide in diabetic rats attenuates the severity and improves the myocardium functioning significantly when compared to other groups treated with different doses of *Cinnamomum tamala* in the STZ induced Diabetic Cardiomyopathy in rats. These results suggest that phenolic

compounds, flavanoids and terpenoids present in *Cinnamomum tamala* leaves might be responsible for these effects.

Different Psychological intervention approaches for Encouragement Drug addicted patients

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Abstract: In recent years, Individuals with substance and behavioral addictions can get benefits from an integrated style of care that is supported by evidence-based psychotherapy therapies improves social and community functioning, reduces anxiety, strengthens coping mechanisms, and helps build self-esteem. Patients can deal with issues related to their mental health conditions that have an impact on their entire lives through supportive psychotherapy. The relevance of combining medication and psychotherapy in the treatment of drug abuse is emphasized in this overview of the prevalence, major combination of health diseases and the financial impact of addictive diseases provide a compelling setting for tackling this various global health problems. Moreover, Individual psychotherapy can be employed to encourage and promote abstinence, reduce treatment drop-outs, enhance treatment adherence, and improve inner strengths as well as problem-solving capabilities in the treatment of substance abuse problems. The principal target of drug rehabilitation is to ensure that the addict begins to discontinue substance misuse in order to avoid the psychological, judicial, economic, social, and physiological complications that can be generated, especially with extreme addiction. Our main motive is trying to minimize the effects of psychotherapy in pharmacotherapy-based research can be extremely counterproductive, because psychosocial therapies encourage and motivate patients to be more involved in the treatment process, and positively affect treatment adherence, which is an important component for treatment outcome.

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