

# 2<sup>nd</sup> INTERNATIONAL CONFERENCE ON FOSTERING INTERDISCIPLINARY RESEARCH IN HEALTH SCIENCES 2019

14<sup>TH</sup> - 15<sup>TH</sup> SEPTEMBER 2019

AIMST UNIVERSITY, MALAYSIA



## Abstract and Souvenir

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**2nd INTERNATIONAL CONFERENCE ON  
FOSTERING INTERDISCIPLINARY RESEARCH  
IN HEALTH SCIENCES  
(ICFIRHS) 2019**



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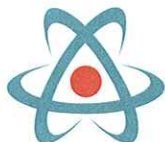
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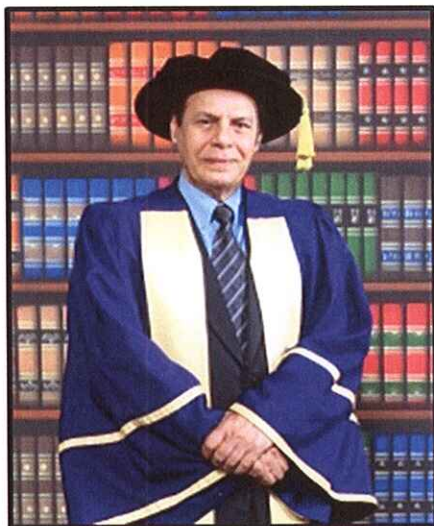




# AIMST UNIVERSITY

*Educating Tomorrow's Leaders*

DU010(K)



**"The new Health Sciences building will provide a central facility for all pharmacy instruction and research."**

*- Robert Simmons -*

I am exultant to perceive that CONFNEXT Raipur, India in collaboration with AIMST University is organizing the **2<sup>nd</sup> INTERNATIONAL CONFERENCE ON FOSTERING INTERDISCIPLINARY RESEARCH IN HEALTH SCIENCES** on 14 & 15 September 2019. I wish to extend my warmest welcome to all of you to our Green Campus.

On behalf of AIMST University, I would like to express my appreciation to the organizers, committee members, guest speakers, presenters, participants and staff for their hard work and relentless effort to make this conference a success.

Best wishes for a productive and enjoyable conference. Thank you.

EMERITUS PROFESSOR DR. HARCHARAN SINGH SIDHU

Chief Executive & Vice-Chancellor

Chief Patron – ICFIRHS 2019

AIMST University, Malaysia



डॉ. केशरी लाल वर्मा  
कुलपति

Dr. Keshari Lal Verma  
Vice Chancellor



पं. रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छत्तीसगढ़) भारत

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Raipur, September 09, 2019

### MESSAGE

It is my pleasure to invite all of the great scientists, academicians, young researchers, delegates and students from all over the world to attend the '**2<sup>nd</sup> International Conference on Fostering Interdisciplinary Research in Health Sciences (ICFIRHS 2019)**' from September 14-15<sup>th</sup>, 2019 AIMST University, Malaysia organised by confnext.

Conference on Fostering Interdisciplinary Research in Health Sciences shares an insight into the recent research and cutting-edge technologies, which has gained immense interest with clinical practice, organisation and delivery of health services, health policy, translational science (covering the social and behavioural science of innovation and adoption), digital health and the patient experience, young and brilliant researchers, delegates and talented student communities.

Health sciences meetings aims to bring together scientists from different arena of research attributes and aptitudes to materialize the dream of interdisciplinary research which is more targeted and oriented. I am conclusive that the participating group of scientists and researchers from all over the world will be present to exchange breakthrough ideas relating to health sciences.

It will promote culminating research and to globalize the quality research in general, thus making discussions, presentations more internationally competitive and focusing attention on the recent outstanding achievements in the field of Health Sciences, and future trends and needs.

Since this conference covers very global aspects on health sciences from fundamental issue to practical application of the principle of health sciences, anyone interested in future progress of health sciences should not miss.

We're looking forward to an excellent meeting with great scientists from different countries around the world and sharing new and exciting results in Health Sciences, which will be held in Malaysia, from September 14-15, 2019.

With best wishes.

(Keshari Lal Verma)



**Dr. B. Suresh**  
**President, Pharmacy Council of India**

### **MESSAGE**

Greetings!

As President, Pharmacy Council of India, I congratulate the team of Confnext, India and AIMST University, Malaysia for organizing 2<sup>nd</sup> International Conference on “Fostering Interdisciplinary Research in Health Sciences” (ICFIRHS 2019) at the AIMST University, Malaysia on 14-15<sup>th</sup>, September, 2019.

The theme selected “Fostering Interdisciplinary Research in Health Sciences” is the need of the hour and is beneficial for understanding and resolving complex public health problems. The importance of developing good relationships between researchers from different disciplines is particularly important for facilitating successful interdisciplinary research.

This conference highlights numerous Scientific discoveries and major milestones in management of health sciences and socio-economic health concerns and global health challenges. I am confident that all participants and delegates will enjoy their scientific bon voyage and stay in AIMST University, Malaysia. This will help to contribute to their vibrancy with and with enriched discussions around the theme, developing professional knowledge exchange, insights and collaborations.

We look forward to welcome you to this exciting International Conference with great scientists from different countries around the world and sharing new and exciting results in health sciences.

Looking forward towards great scientific congregation witnessing conducive interdisciplinary confederation.

With warm regards

**Dr. B. Suresh**

**President, Pharmacy Council of India**

**New Delhi, India**



## **Prof. Shailendra Saraf**

**Vice President,**  
Pharmacy Council of India, New Delhi  
**Professor,**  
University Institute of Pharmacy,  
Pt. Ravishankar Shukla University,  
Raipur Chhattisgarh (India)

### **Message**

#### **Dear Delegates and Guests**

I am personally delighted to welcome all perspicacious invitees for the 2<sup>nd</sup> International Conference on Fostering Interdisciplinary Research in Health Sciences (ICFIRHS) to be held from 14-15<sup>th</sup> September 2019 jointly hosted by AIMST University, Malaysia and CONFNEXT, Raipur Chhattisgarh, India. The 2<sup>nd</sup> (ICFIRHS) 2019 with the theme “Interdisciplinary Research in Health Sciences”. I am convinced that the conference will definitely provide a platform to the participating delegates to discuss important issues to develop new knowledge and research in the pharmaceutical and health sciences

As Research in Pharmaceutical and health Sciences has always been interdisciplinary and multifaceted, the new challenges continue to emerge in this arena; there is no better time than the present to prepare for the future together.

Opportunities and challenges in terms of health sciences needs of the society and the expertise required to formulate the strategies to face these challenges are manifold. This international conference will bring together leading researchers, professionals, academicians, universities, industry expert and scientists in the domain of interest from around the world. I strongly believe this international conference will impart beneficial aspects and help to launch new initiatives.

I heartily welcome all the distinguished Speakers, scholars, researchers and the participants. I congratulate the AIMST University, Malaysia and CONFNEXT, Raipur Chhattisgarh, India for organizing this conference with successful accomplishment of objectives.

I am positive that the deliberation and interactive session during this conference will drive the researchers and students to greater heights in the years to come.

Looking forward to meet you all

With best wishes

Prof. Shailendra Saraf



**Prof. Markanday Ahuja**

**Hon. Vice Chancellor**

My heartfelt wishes for grand success of confnext 2nd International Conference on Fostering Interdisciplinary Research in Health Sciences (ICFIRHS) 2019” on 14th-15th September, 2019 organized at AIMST University, Malaysia





**September 04, 2019**

Dear Organizers

I congratulate Confnext and the Faculty of Medicine at AMIST University, Malaysia for organizing an International Conference on “Fostering Interdisciplinary Research in Health Sciences” (ICFIRHS-2019). Complexity of health sciences and disease mechanisms require application of multidisciplinary technologies and interdisciplinary expertise for understanding pathogenesis of the disease.

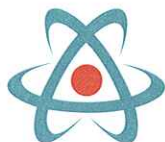
Recent scientific advancements and availability of advanced tools & technologies have resulted into a paradigm shift in research on health sciences and new drug discovery. This conference shall provide a common platform to bring the experts and researchers from different disciplines of science together and generate opportunities for multidisciplinary collaborative research in health sciences.

I am highly honored to be a part of this mission and look forward to participate in this conference. I would share my experiences and research on “Multidirectional paradigm for new drug discovery from natural products resources: challenges & opportunities”.

With best wishes to the organizers of ICFIRHS-2019 and delegates attending the conference.

Yours sincerely

**(Babu L. Tekwani Ph.D.)**  
Distinguished Fellow & Chair Infectious Diseases  
Division of Drug Discovery  
Southern Research Birmingham AL USA



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**“Science is a way of thinking more than it is a  
body of knowledge”**

*- Carl Sagan -*

I have been in a transport of delight knowing that AIMST University is collaborating with CONFNEXT Raipur, India in organizing the **2<sup>nd</sup> INTERNATIONAL CONFERENCE ON FOSTERING INTERDISCIPLINARY RESEARCH IN HEALTH SCIENCES 2019**. It gives me immense pleasure inviting all of you to AIMST University.

I would like to take this opportunity to express my gratitude and appreciation to CONFNEXT Raipur, India for their dedication and effort in making this conference a triumph. With that, I am also extending my appreciation to the committee members, guest speakers, presenters, participants and staff.

Thank you and I wish the conference a great success.

HON. COL. (CD) SNR. ASSC. PROF. DR. KATHIRESAN SATHASIVAM

Registrar

Commandant (Civil Defense)

Patron – ICFIRHS 2019

AIMST University, Malaysia



Dr. S.J.Daharwal

Convener, 2nd ICFIRHS 2019

Dear all

I am extremely excited to welcome all renowned speakers, guests, delegates and participants to be the part of 2nd International Conference on “Fostering Interdisciplinary Research in Health Sciences (ICFIRHS) 2019.

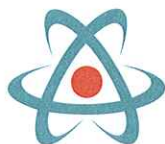
I am hopeful that the success of this event will further motivate us to organize such events promoting interdisciplinary research among the young budding researchers.

Looking forward to meet and welcome you all at AIMST University, Malaysia.

Best wishes

Dr.S.J.Daharwal





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**"Health Has Its Science As Well As Disease"**

*- Elizabeth Blackwell -*

On behalf of the organizing committee, I am honored and delighted to welcome you to AIMST University, Malaysia for the **2<sup>nd</sup> INTERNATIONAL CONFERENCE ON FOSTERING INTERDISCIPLINARY RESEARCH IN HEALTH SCIENCES 2019** from 14 - 15 September 2019. This conference is organized by AIMST University, Malaysia and CONFNEXT Raipur, India. This year's conference includes a wide range of topics on Health Sciences.

As the conference chairperson of ICFIRHS2019, I know that the success of the conference depends ultimately on the team who has worked with us in planning and organizing and I believe we can get the ultimate benefit from this conference.

In advance I wish to extend a warm welcome to all delegates from various countries for this coming ICFIRHS2019. I realize that you are fully dedicated to this conference and I do hope you will also take some time to enjoy your time in Malaysia with its tropical setting, friendly people and multi-cultural cuisine.

I hope that you find the event informative and enjoyable.

**Mr. M. Bala Sundaram**

Senior Lecturer - Faculty of Medicine

Chairman - ICFIRHS 2019

AIMST University, Malaysia



Dr. Deependra Singh  
Organizing Secretary  
2nd ICFIRHS 2019

I am extremely delighted to welcome all the esteemed guests, plethora of speakers and delegates to CONFNEXT 2nd International Conference on “Fostering Interdisciplinary Research in Health Sciences (ICFIRHS) 2019” on 14th-15th September, 2019 organized at AIMST University, Malaysia.

The need for interdisciplinary research appears to be indispensable and contemporary need of the hour. Due to the complexity of human health, emphasis is increasingly being placed on the need for conduct of multidisciplinary and/or interdisciplinary health research. The availability of new techniques and technologies to answer important medical questions is accelerating at a breathtaking pace.

I am hopeful that all of you will have wonderful exposure to the scientific deliberations by esteemed intellects from around the globe and great stay at AIMST University, Malaysia.

With best wishes

Dr. Deependra Singh

<b>Sl. No.</b>	<b>Article/Abstract Title</b>
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<b>2</b>	Extraction of L-Quebrachitol in Natural Rubber Wastewater- An Optimization Study using Box Behnken Design Muhamad Hafiz Hanifa, Kathiresan V.Sathasivam*
<b>3</b>	ADVANCES IN STEM CELL TECHNOLOGY Suresh Kumar, Subbiah
<b>4</b>	Effect of Bosu Ball Training on Multifidus Muscle Cross Section and Upper Body Power P.Sankara Kumaran :Muthu Kumaran Jothilingam:Deepthi Ganesan:Kaviarasu Mahalingam
<b>5</b>	Spinal and pelvic disposition associated with utero vaginal prolapse in post-menopausal women Deepthi Ganesan :P .Sankara kumaran :Yu Che Wah:Prathap Sungendrababu
<b>6</b>	Screening for Contamination of Zinc Oxide Nanoparticles in Microalgal Nutritional Supplement <i>Haematococcus pluvialis</i> Sinouvassane Djearmane*; Ling Shing Wong; Yang Mooi Lim; Poh Foong Lee
<b>7</b>	Does Proprioception of knee improve after various forms of training in Osteoarthritis of Knee? Naresh Bhaskar Raj;Soumendra Saha; Srilekha Saha; Hazliza Razali; Nur Yanti Haryana Othman
<b>8</b>	EFFECTS OF ECCENTRIC AND CONCENTRIC STRENGTHENING FOR HIP ABDUCTORS AND EXTERNAL ROTATORS IN PATIENTS WITH PATELLOFEMORAL PAIN SYNDROME Kavitha Shetty;Dr. Lawrence J. Mathias; Mahesh V Hegde
<b>9</b>	Respiratory muscle strength training and pulmonary function changes in subjects with Chronic neck pain M. Balaganapathy ; Twisha S. Kansara
<b>10</b>	"Correlation between prolonged standing and calf muscle trigger points and its consequences on the quality of life among primary school teachers in Kedah"- An observational study Kaviarasu Mahalingam
<b>11</b>	EFFECT OF CONTINUOUS PASSIVE MOTION (CPM)ON MOBILITY FUNCTIONS IN TOTAL KNEE ARTHROPLASTY GOKARAKONDA SREE VAMSI
<b>12</b>	EFFECTIVENESS OF EXTRACORPOREAL SHOCKWAVE THERAPY VERSUS CONVENTIONAL PHYSIOTHERAPY IN IMPROVING HAND GRIP STRENGTH AMONG PATIENTS WITH STENOSING TENOSYNOVITIS Sathishwaran K, Pradeep B.,Roslizawati N., Izham Z.
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15	Evaluation of antimicrobial activity of different solvent extracts of Archidendron pauciflorum (Jering) Jeevandran Sundarasekar; Tan Soo Fang; Parasuraman Subramaniam; Sundram Karupiah
16	Rapid, sensitive and closed-tube detection of plant DNA virus through PCR Afaque Quraishi
17	Melatonin and Glutathione Attenuates Lead and Acid rain Toxicity by Regulating Gene Expression of antioxidants in Trigonella foenum graecum L. Roseline Xalxo; Jipsi Chandra; S. Keshavkant
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21	Role of silver nanoparticles in revival of aged seeds Jipsi Chandra; Jeabunnisha Khan; Roseline Xalxo; S. Keshavkant
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27	Colon Targeted Controlled Porosity Osmotic Pump of Curcumin Kumar Guarve; Geeta Deswal; Ashwani Dhingra
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## **RECENT TRENDS IN PHYTOTHERAPY RESEARCH**

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### **Abstract**

India has rich diversity of medicinal plants. The supply base of 90% herbal raw drugs used in the manufacture of Ayurveda, Siddha, Unani & Homoeopathy systems of medicine is largely from the wild. This wild source is speedily shrinking day-by-day. Therefore, there is a need for conservation and sustainable use of medicinal plants. Cultivation is clearly a sustainable alternative to the present collection of medicinal plants from the wild.

From prehistoric days, plants are used for medicinal purposes is as old as our civilization. Herbs have been used for uncounted time for various purposes like healing the sick and infirm. Most of the people still continue to use herbs to benefit their bodies. Many scientific studies are still continued with modern research following the lead of old folklore and herbal uses to help finding new western medicine.

Herbs are considered to be food rather than medicine because they're complete, all natural and pure, as nature intended. When herbs are taken, the body starts to get cleansed, it gets purifying itself. Unlike chemically synthesized high dosage drugs which may produce many side effects, herbs can effectively realign the body's defenses.

The use of herbs to treat disease is almost universal among non-industrialized societies. A number of traditions came to dominate the practice of herbal medicine at the end of the twentieth century. The World Health Organization (WHO) estimate that 80 percent of the world's population presently uses herbal medicine for some aspect of primary health care.

Pharmacologists, microbiologists, botanists and natural – products chemists are combing the Earth for photochemical and leads that could be developed for treatment of various diseases. In fact, according to the world Health Organization, approximately 25% of modern drugs used in the United States have been derived from plants.

## **Extraction of L-Quebrachitol in Natural Rubber Wastewater- An Optimization Study using Box Behnken Design**

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### **Abstract**

L-Quebrachitol is the natural derivative product from the rubber industry. Box-Behnken Design is widely used method which involves both mathematical and statistical technique for constructing the relationship between a response variable and design variable. This method is applicable to extraction parameters. In this study, we used direct heat process to extract L-Quebrachitol from natural rubber wastewater. The effects of ethanol, acetone and deionized water volume and extraction temperature on L-Quebrachitol yield were investigated. The extraction conditions were optimized using response surface methodology by evaluating responses of total L-Quebrachitol yield. FT-IR, HPLC and LC-MS were used to determine the structure of L-Quebrachitol. The scales up studies are used to show that the production of L-Quebrachitol yield with different volumes can be achieved. This is important that it can be applied in industrial to produce L-Quebrachitol in large amount. Finally, an antioxidant studies done by using DPPH method indicated that the extracted compound displayed a fairly good anti-oxidant property.

**Keywords:** L-Quebrachitol, Box-Behnken Design, natural rubber wastewater

## **ADVANCES IN STEM CELL TECHNOLOGY**

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### **ABSTRACT**

Stem cells can give rise to various cell types in the human body and is important in cell repair and regeneration. Research has been done for years to develop biomaterials that can guide stem cells into specific fates, such as using physical cues. Culture materials with certain physical properties and feeder layer can favour certain differentiation of cells. In the recent years, researchers are focus more on biological and physical cues to direct stem cell differentiation. For instance, the elasticity of biomaterials use for culturing stem cells can decide the pluripotency and differentiation direction of the stem cells. In addition, continuous harvest technology has been developed to harvest stem cells from culture plate continuously by manipulating the culture temperature. Such techniques allow faster, cheaper and simpler procedures in stem cells culture.

**Key Words:** Stem cells; physical cues; biomaterials



**Paper ID: AHS-1273158273**

## **Effect of Bosu Ball Training on Multifidus Muscle Cross Section and Upper Body Power**

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### **ABSTRACT:**

**INTRODUCTION:** The stability of the core is crucial to provide a foundation for movement of the upper and lower extremities, to support loads and safeguarding the spinal cord and nerve roots. The stabilizing system has been divided into three distinct subsystems: the passive subsystem, the active muscle subsystem, and the neural subsystem. The study planned to provide an HIIT exercise with the use of the Bosu Ball. Bosu Ball exercises are often categorized as Strong-Man exercises. But battle rope and Bosu Ball techniques are yet to be explored.

**AIM:** This study aims to investigate the effect of Bosu Ball HIIT on improving the Multifidus muscle cross-section and upper body power in young adults.

**OBJECTIVE:** To compare the effectiveness of Bosu Ball HIIT for increasing Multifidus cross section. To compare the effectiveness of Bosu Ball HIIT for increasing upper body Power in young adults.

**METHODOLOGY:** Participants in Bosu Ball group received high intensity interval training. Exercises like Push ups on Bosu Ball, Shoulder Press with Bosu Ball, Lunges on Bosu Ball, Bosu Ball Burpees and Bosu Ball Squats is given.

**OUTCOME MEASURE:** Thickness of Lumbar Multifidus Muscle to measure core Muscle strength and Medicine Ball Put test for Upper Body Power.

**RESULT:** This shows that Medicine Ball Put test values are gradually increasing with the P value (0.0001) statistically significant.

**CONCLUSION:** This study concluded that there is significant improvement in upper body power and the Multifidus muscle cross-section over a period of six weeks by using Bosu Ball High Intensity Interval Training among male young adults.

**KEYWORDS:** Bosu Ball Exercise, Core Muscle, Upper Body Power

**Paper ID: AHS-1322171322**

## **Spinal and pelvic disposition associated with utero vaginal prolapse in post-menopausal women**

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### **ABSTRACT:**

#### **Introduction:**

The pelvic floor muscles give extensive support to pelvic organs. Apart from this the lumbar spine and pelvis also provides support to pelvic viscera which has not been examined extensively. This bony support will be lost majorly among the post-menopausal women. This could possibly lead to utero vaginal prolapse.

#### **Objective:**

This study is proposed to evaluate the association between orientation of pelvis and lumbar spine related to utero vaginal prolapse among postmenopausal women.

#### **Conclusion:**

The results shows decrease in lumbar lordotic angle and increase in pelvic inlet could be the associated factors for utero vaginal prolapse. This must be considered for successful pelvic floor rehabilitation.

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**KEYWORDS:** Uterovaginal prolapse, Lumbar lordotic angle, Pelvic inlet angle

**Paper ID: AHS-1363170363**

## **Screening for Contamination of Zinc Oxide Nanoparticles in Microalgal Nutritional Supplement *Haematococcus pluvialis***

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### **ABSTRACT:**

Background: Zinc oxide nanoparticles (ZnO NPs) are extensively used in industrial and personal care products. Such massive usage of ZnO NPs has created residues that contaminate the aquatic environment. Remarkably, microalgae have a greater ability to accumulate and uptake the metallic NPs into their biomass. Consumption of microalgae as a food supplement which has adsorbed NPs in the biomass could cause health hazards to the consumers. Hence, it is essential to screen the contamination of ZnO NPs in microalgal food. Objective: The present study has investigated the cellular uptake and the corresponding morphological changes in nutritional supplement microalga *Haematococcus pluvialis*. Methods: The scanning electron microscopy energy dispersive X-ray spectroscopy (SEM-EDX) was used to identify the cellular uptake of ZnO NPs in algal cells, while inductively coupled plasma optical emission spectrometry (ICP OES) was performed to quantify the cell associated-zinc in algal cells. The extracellular and intracellular changes in algal cells resulted from the treatment of ZnO NPs were demonstrated through optical, scanning and transmission electron microscopic studies. Results: SEM EDX spectrum demonstrated the surface accumulation of ZnO NPs in algal biomass and ICP OES results reported a significant ( $p < 0.05$ ) dose- and time-dependent accumulation of zinc in algal cells from 24 h at ZnO NPs (10 - 200  $\mu\text{g/mL}$ ). The microscopic studies showed cellular aggregation, cell membrane rupture, cell leakage, destruction of photosynthetic system and photosynthetic pigments. Discussion: The present study reported the significant cellular accumulation of ZnO NPs in algal cells and the corresponding surface and intracellular changes. Conclusion: The study has successfully screened the contamination of ZnO NPs in the nutrient microalga with quantification of the metal accumulated in the biomass.

**KEYWORDS:** *Haematococcus pluvialis*, nutrient microalga, zinc oxide nanoparticles, cellular accumulation

**Paper ID: AHS-1446162446**

## **Does Proprioception of knee improve after various forms of training in Osteoarthritis of Knee?**

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### **ABSTRACT:**

The present study was aimed to investigate the role of various forms of training in improving the proprioception of the knee joint in patients with osteoarthritis of knee. Sixty participants (male and female) with knee Osteoarthritis of Grade II & III (Kellgren-Lawrence criteria) in the age range of 50-73 years were recruited from the Department of Orthopedics, Hospital Universiti Sains Malaysia. The recruited participants were taken to the Exercise and Sports science laboratory and the laboratory of School of Medical Sciences, Universiti Sains Malaysia for baseline assessment. The level of proprioception was assessed with the aid of isokinetic device BIODEX 4 System Pro. The participants were randomly categorized into four groups (Gr.) (Viz. Gr. A, Gr. B, Gr. C and Gr. D) and thus each group consisted of 18 participants. Gr. A participants received Conventional Physiotherapy consisting of strengthening exercises; stretching exercises and range of motion exercises. Gr. B received Isokinetic Training at velocities of 90° and 150°/second. Gr. C participants received EMG Biofeedback training with Mega ME 6000 device and Gr.D participants recieved a combined intervention of isokinetic training and EMG Biofeedback. The training protocol was designed for 25 - 30 minutes per session; 2 sessions per week for 10 weeks (20 sessions). The assessment was done after 5th week of training (mid term) and after 10th week of training (post) following baseline assessment protocol. A follow up assessment was performed after the 14th and 18th week to assess the after effect of training. Meanwhile the participants were not given any training after the 10 week period. They were also adviced not to get engaged in any sort of physical training, exercise or sport programme. Repeated measure of ANOVA revealed that, all interventions helped in improving the proprioception of the knee joint however post hoc analyses implicated that a combined intervention of Isokinetic Training and EMG biofeedback was beneficial in enhancing proprioception than the conventional physiotherapy ( $P<.05$ ).

**KEYWORDS:** Knee Osteoarthritis, Proprioception, IsokineticTraining, Knee



**Paper ID: AHS-1471111471**

## **Effects of Eccentric and Concentric Strengthening for Hip Abductors and External Rotators in Patients with Patellofemoral Pain Syndrome**

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### **ABSTRACT:**

**Back ground:** Patellofemoral pain syndrome (PFPS) is one of the most common musculoskeletal disorder in the knee. It affects both athletes and no athletes. Although there is growing evidence to support the inclusion of hip abductor and external rotator muscle strengthening along with the traditional quadriceps strengthening in the rehabilitation of individuals with PFPS, patients continue to experience pain and dysfunction. There are still limited studies conducted to determine the type of hip muscle strengthening strategies that may be helpful functionally to improve the outcome in the sedentary population with PFPS.

**Objectives:** The primary objective of the study is to compare the additional effect of concentric hip abductor and external rotators strengthening and the additional effect of eccentric hip abductor and external rotators strengthening in reducing pain & improving the functional status in patients with Patellofemoral pain syndrome.

**Study Design:** A single-blinded, randomised controlled trial.

**Methods:** 180 sedentary male and female patients between 18 and 40 years of age ( $25.40 \pm 6.67$ ), with a diagnosis of PFPS, were distributed randomly into 3 groups: Control Group ( $n = 60$ ) consisting of knee strengthening program (control group) ; Concentric strengthening group ( $n=60$ ) consists of concentric hip abductor and external rotator strengthening and knee strengthening ; Eccentric strengthening group ( $n=60$ ) consists of eccentric hip abductor and external rotator strengthening and knee strengthening. All patients underwent baseline assessment session, followed by a 6-weeks exercise program and were reassessed at the end of the session. An 11-point numeric pain rating scale, the Lower Extremity Functional Scale, the Anterior Knee Pain Scale and isometric strength evaluation for the hip abductor and external rotator were used as outcome measures.

**Results:** Most of the subjects are females 72 % and only 28% is males. At baseline, demographic of height, weight and BMI; pain and functional assessment data were similar between groups. All the three groups showed a significant improvement in the LEFS, the AKPS, the NPRS and isometric hip strength ( $p<0.05$ ), however, the eccentric hip strengthening group showed higher mean values on AKPS ( $33 \pm 9$ ), LEFS ( $27 \pm 6$ ), and NPRS ( $3 \pm 0.95$ ) compared to concentric hip strengthening and control group. The MCID value demonstrated in Eccentric hip strengthening group for AKPS (33.1%), LEFS (34.3%), NPRS (34.1%) and the concentric hip strengthening group AKPS (26.7%), LEFS (26.7%), NPRS (26.9%) were higher than the control group.

**Conclusions:** In the rehabilitation of PFPS, eccentrically strengthening of hip abductors and external rotators in addition to knee strengthening is more efficient in reducing pain and increasing knee function compared to concentrically strengthening hip abductor and external rotators in addition to knee strengthening.

**KEYWORDS:** Patellofemoral pain syndrome; anterior knee pain; hip; knee; eccentric; concentric: muscle strengthening.

**Paper ID: AHS-1592160592**

## **Respiratory muscle strength training and pulmonary function changes in subjects with Chronic neck pain**

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### **ABSTRACT:**

**Introduction:** Chronic neck pain, being one of the most commonest complain among many people have led to many musculoskeletal problems with mean overall general population of approximately 23%. Patients with chronic neck pain complains of weakness and fatigue of cervical muscles, reduced cervical mobility, impaired proprioception, postural abnormalities, poor pulmonary function and psychological compromised. Chronic neck pain may lead to reduced lung volume and chest wall compliance. Respiratory pressure meter and pulmonary function test is required to measure the respiratory muscle strength and pulmonary functions respectively. Respiratory training improves respiratory muscle strength. With the help of inspiratory muscle trainer and positive expiratory pressure, there can be improvement in the respiratory parameters of patients with chronic neck pain. As a result, whenever functions are compromised, extended rehabilitation is required for respiratory parameters. Hence this study was done to know the effect of inspiratory muscles strength, effect of expiratory muscles strength in subjects with chronic neck pain and also the changes in pulmonary functions in subjects with chronic neck pain.

**Methodology:** A total of 40 subjects were recruited according to inclusion and exclusion criteria. 20 subjects were allocated in control group and 20 subjects in experimental group. Both the groups were assessed for NPRS, NDI, MIP, MEP, FVC, FEV1/FVC, PEFR, SVC and MVV. Both the groups received the standard treatment for neck pain that includes interferential current therapy and stretching of neck muscles like trapezius, scalene and sternocleidomastoid. But the experimental group received additional treatment to standard treatment which included respiratory training with inspiratory muscle trainer and positive expiratory pressure. Pre and post assessment were taken. Intervention period was for about 4 weeks.

**Results:** After a 4 week intervention, results showed that there is a significant improvement in NPRS, NDI, MIP, MEP, SVC and MVV. But the results showed no significance for FVC, FEV1/FVC and PEFR. In intragroup NPRS and NDI showed a significant value of  $p = 0.00$ . Whereas for MIP and MEP it showed the same result of  $p = 0.00$ . SVC was found to be significant for experimental group and between group. The intergroup for MVV is  $p = 0.008$  and that for intragroup (between group) is  $p = 0.000$ .

**Conclusion:** Respiratory parameters are found to be reduced in subjects with chronic neck pain. So along with standard treatment, respiratory training can be added to the rehabilitation protocol for subjects with chronic neck pain.

**KEYWORDS:** Chronic neck pain, respiratory muscle strength, pulmonary functions, respiratory training.

**Paper ID: AHS-1675164675**

## **“Correlation between prolonged standing and calf muscle trigger points and its consequences on the quality of life among primary school teachers in Kedah”- An observational study**

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### **ABSTRACT:**

**Introduction:** Occupational musculoskeletal disorders are the emerging problem globally and long-neglected issue in developing countries. Prolonged standing is one of the unavoidable situations among primary school teachers. The antigravity muscles are active throughout standing. The calf muscle is one of the important antigravity muscles that go for shortening.

**Objectives:** To rule out the correlation between prolonged standing in developing calf muscle trigger points.

**Study design:** Observational Study

**Methodology:** Purposive sampling was done and included 25 primary school full-time teachers from SJK T Bedong who were having a teaching task for more than 4 hours a day. Part-time teachers and the teachers who had recent injuries and underwent recent surgeries been excluded from this study.

Outcome measures: Numerical pain rating scale, manual palpation technique to rule out trigger points, QoL questionnaire.

**Results:** Statistically this test revealed no significant relationship in developing calf muscle trigger points due to prolonged standing. The significance level achieved for this study is  $P=0.819$  and  $F=0.474$ . This study used the chi-square test to find the relationship between standing and calf muscle trigger points. However, Eta Squared test declared a moderate effect size ( $p=0.109$ ).

**Conclusion:** Prolonged standing with intermittent sitting may not trigger the calf muscles. However, dominant side gastrocnemius muscle is kept under continuous tension that results in pain for the primary school teachers. There is a moderate chance for developing trigger points in the gastrocnemius muscles.

**KEYWORDS:** Prolonged standing, teachers, calf muscle, trigger points

**Paper ID: AHS-1826155826**

## **Effect of Continuous Passive Motion (CPM) on Mobility Functions in Total Knee Arthroplasty**

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### **ABSTRACT:**

**Introduction:** Total Knee arthroplasty (TKA) is a common intervention that can enhance the quality of life for patients with knee osteoarthritis. The primary focus of early rehabilitation is ambulation and regaining Range of motion (ROM) in the knee joint.

**Objective:** To analyse the effects of continuous passive motion on functional mobility of patients with total knee arthroplasty.

### **Experimental method:**

**Study design:** Pilot study (Quasi experimental design)

**Sample size:** A sample of 10 subjects who underwent unilateral TKA was recruited.

### **Inclusion criteria:**

Acute TKA on 2nd Post-operative day

### **Exclusion criteria:**

Patients in ICU.

### **Results:**

CPM

ROM

SIX MIN.WALK TEST

### **Discussion:**

The results of this study indicate considerable difference in six minute walk test between two groups. The study had shown there was no significant difference between CPM and exercise and only exercises.

### **Conclusion:**

The significance in six minute walk test infers that there is improvement in functional outcomes of TKA subjects. However, comparison of ROM indicated that CPM does not effect on knee range mobility.

**KEYWORDS:** Total knee arthroplasty, continuous passive motion, range of motion, mobility function.



**Paper ID: AHS-1923188923**

## **Effectiveness of Extracorporeal Shockwave Therapy Versus Conventional Physiotherapy in Improving Hand Grip Strength among Patients with Stenosing Tenosynovitis**

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### **ABSTRACT:**

**Introduction:** Stenosing tenosynovitis is a musculoskeletal condition of the hand which cause triggering, snapping and locking sensation of the affected finger and/or thumb while flexing it. The effectiveness of physiotherapy treatment for stenosing tenosynovitis patients could not specifically pin point to a treatment regime that could effectively manage this condition. Recent physiotherapy literature supports the application of extracorporeal shockwave therapy to treat musculoskeletal conditions, and also it was proven to help shorten the recovery period and could be used as a noninvasive treatment option for stenosing tenosynovitis.

**Objective:** To identify if extracorporeal shockwave therapy is a better treatment option to improve hand grip strength and of stenosing tenosynovitis patients compared to conventional physiotherapy.

**Design and methods:** A prospective randomised controlled trial was undertaken where forty-eight male and female patients are randomised to group A (extracorporeal shockwave + standardized hand grip exercise), group B (paraffin wax therapy + standardized hand grip exercise) and group C (standardized hand grip exercise alone).

**Measurement:** Outcomes of treatment were measured through Jamar-Hand Grip Dynamometer at baseline, fifth and tenth week. A mixed model ANOVA was performed to analyse the clinical data.

**Results:** Study has showed that all three groups showed improvement in post treatment, however the most significant gain was noted to be in group A, which has highest gain in hand grip strength ( $F(2,90) = 591.581$ ,  $p < .001$  with effect size of  $\eta^2 = .929$ ) when compared to group B and group C.

**Conclusion:** extracorporeal shockwave therapy could be a valuable conservative physiotherapy treatment option which could be used to treat patient who has stenosing tenosynovitis compared to conventional physiotherapy treatment.

**KEYWORDS:** Extracorporeal Shockwave Therapy, stenosing tenosynovitis, physiotherapy, Hand grip strength, Jamar-Hand Grip Dynamometer.

**Paper ID: ASM-126882268**

## **A Study on the Medicinal Plants used by Tribes of Surguja District, Chhattisgarh (India)**

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### **ABSTRACT:**

Medicinal plant used as traditional medicine practice is a term applied to pre- scientific system that process of medical knowledge, which is passed through generations to generation from one Vaidhya to another. It refers to the beliefs, claims, herbal medicine preparation and practices in alleviating disease and disorders among the tribal populations like Oraon, Hill Korwa, Nageshia and Gond. Some valuable information was gathered about the local medicinal plants and their uses. Traditionally, the area remains unexplored and no comprehensive account of local traditional knowledge is available, the importance of recording of the usage of plants in this region is especially imperative because of rapid loss of forest wealth and traditional wisdom.

This paper presents the local medicinal plants of Surguja district. The paper highlights the indigenous medicinal plants for the treatment of various types of diseases among the different tribes. Plant species are enumerated in alphabetical order along with families, local names; botanical name followed by their uses.

The primary objective of this study is to present a database on indigenous knowledge on medicinal plants used for disease among the local traditional healers of Surguja district. A survey on the plants used for disease was carried out during the period 2018-2019 and information regarding the different types of plants used parts of the plants, mode of administration was collected from 09 villages of the district. The present study reveals that the rural tribal people are well versed with the nature and natural resources around them. In the present study, it has been found that about 20 species of plants belonging to different families have been used traditionally by the people of the study area. It is concluded that even though the accessibility of the modern system of medicine for simple and complicated diseases is available, many people in the studied area still continue to depend on medicinal plants, for the treatment of different types of diseases. like Migraine , Pneumonia , Kidney , Mouth Ulcer , Snake Poison and Fever. The need of the hour is to harness this traditional knowledge and preserve this knowledge for the betterment of **future mankind**.

**KEYWORDS:** Tribal Population, Forest Wealth, Medicinal Plant, Disease, Treatment.

**Paper ID: BS-121219212**

## **Polar and Non-Polar Solvent Extracts Posses of Differential Antioxidant Activity of Medicinal Mushroom (*Pleurotus florida*)**

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### **ABSTRACT:**

*Pleurotus florida* is an edible mushroom. It is known to contain a wide variety of bioactive compounds with high nutritional and medicinal values. Due to the wide diversity of compounds in the mushroom, recent research focused on employing different solubility to the solvent used for the extraction process. The present study used various polar and non-polar solvents for extract preparation. We report here the comparison of antioxidant activity of extracts of *P. florida* from eight various solvents, including normal water (Milli-Q), hot water 600C, hot water 800C, ethanol, chloroform, diethyl ether, acetone, and aldehyde, etc. The extracts were evaluated for their antioxidant activities using the different process such as DPPH (2, 2-diphenyl-1-picrylhydrazyl hydrate), Chelating effect assay, Reducing power assay and Total phenolic antioxidant capacity method. The maximum value was obtained from the water extract and the lowest one was from the acetone extract. Furthermore, the non-polar solvent extract (chloroform) showed the strongest DPPH radical scavenging activity (78.65%), similarly, the highest chelating effect recorded for diethyl ether (72.04%), the maximum reducing effect found for formaldehyde (97.14%) at 50 µg/µl. The current study shows that Oyster mushroom demonstrated strong antioxidant potency. Therefore these studies recommend that the *P. florida* species might be used as high-quality sources of natural antioxidants and also used for drug development in a pharmaceutical product.

**KEYWORDS:** Medicinal mushroom, Solvent, Antioxidant potency, scavenging activity.

**Paper ID: BS-1279109279**

## **Evaluation of antimicrobial activity of different solvent extracts of Archidendron pauciflorum (Jering)**

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### **ABSTRACT:**

The use of herbal medicines has been recently growing in countries worldwide including Malaysia. Archidendron pauciflorum (A. pauciflorum), commonly recognised as Dogfruit or Jering (Malaysia), is native to Southeast Asia. It is economically important due to wide variety of uses such as food, flavouring agent, dye and for its medicinal properties. In ethno medicine uses in Malaysia, pounded leaves and bark of A. pauciflorum are used to treat toothache, gum pains, chest pains, skin ailments and also to treat wounds. The aim of this study is to evaluate the in vitro antimicrobial activity of different solvent extracts derived from A. pauciflorum seeds. The A. pauciflorum seeds were extracted with ethanol, chloroform and hexane solvents. The antimicrobial screening was carried out via agar well diffusion technique. Minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) of the extracts were also determined. Antimicrobial screening carried out by agar well diffusion method revealed that only ethanol extract showed mild zone of inhibition against Bacillus cereus, Escherichia coli and Pseudomonas aeruginosa and no inhibitions for hexane and chloroform extracts. A. pauciflorum extracts also does not display any zone of inhibition for Candida albicans. A. pauciflorum seeds were proved to show poor antimicrobial activity against tested Gram positive and Gram negative bacteria as well as fungus. However, reports show that isolated lectin compound from the seeds of Archidendron jiringa Nielsen has antibacterial and antifungal activity. Future studies may be conducted to extract the active compound and evaluate the pharmacology properties of this seeds.

**KEYWORDS:** Archidendron pauciflorum, plant extract, antimicrobial activity, minimum inhibitory concentration, minimum bactericidal concentration

**Paper ID: BS-129228292**

## **Rapid, sensitive and closed-tube detection of plant DNA virus through PCR**

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### **ABSTRACT:**

The polymerase chain reaction (PCR) is used for amplification of specific DNA sequences. It is a highly sensitive and reliable technique for viral detection. In the present study, a rapid assay was developed for the indexing of banana bunchy top virus (BBTV). Primer pairs were designed to target the coat protein gene sequences of BBTV for PCR. The BBTV symptomatic and asymptomatic samples from the field-grown banana and in vitro cultures too were diagnosed for the virus infection. BBTV infection could efficiently spot by using SYBR green I, in the PCR mixture. The BBTV could diagnose in the closed-PCR tubes where the amplified products emitted strong fluorescence under the UV trans-illumination without performing the gel electrophoresis. The method developed may be used for the other single-locus PCR reactions.

**KEYWORDS:** BBTV, DNA isolation, In vitro, Musa, PCR, SYBR green I



**Paper ID: BS-137426374**

## **Melatonin and Glutathione Attenuates Lead and Acid rain Toxicity by Regulating Gene Expression of antioxidants in *Trigonella foenum graecum* L.**

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### **ABSTRACT:**

Lead and acid rain are principal abiotic stress factors that limit the growth, development, metabolic activity, and crop productivity. The present study was intended to scrutinize the responses of *Trigonella foenum graecum* L. (Fenugreek) to combined exposure of lead (1200 ppm) and simulated acid rain (SAR, pH 3.5) and, potential roles of melatonin (MT) and glutathione (GSH) in enhancing tolerance of Fenugreek to lead and SAR stress. In the current research, the attenuation potencies of MT and GSH was investigated in terms of growth, biomass, leakage of electrolytes/ membrane stability, total chlorophyll, reactive oxygen species (ROS), malondialdehyde (MDA), lipoxigenase (LOX), protein and expression of defensive genes that are modulated by lead and SAR toxicity. The results showed that co-application of MT and GSH along with lead and SAR improved the growth and development of seedlings, stabilized the cell membrane integrity, reduced ROS accumulation [superoxide radical and hydrogen peroxide] MDA content and LOX activity, enhanced protein accumulation and up-regulated the gene expressions of catalase and superoxide dismutase, significantly. Considering the observations, it can be concluded that MT and GSH can be utilized as efficient agents for improving tolerance of Fenugreek seedlings towards co-stress of lead and SAR.

### **KEYWORDS:**

Antioxidants, Gene expression, Glutathione, Lead, Melatonin, Simulated acid rain.

**Paper ID: BS-1537133537**

## **Environmental Factors for Inducing Osteogenic Differentiation of Human Mesenchymal Stem Cells**

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### **ABSTRACT:**

Avascular necrosis (AVN) of bones remains a major clinical challenge. Fractures in talus, scaphoid, and neck of the femur are especially challenging to heal due to the low blood vessels network and lack of collateral blood supply. These fractures are associated with high rates of nonunion and increased infections which require repeated operation. Conventional treatments by autograft or allograft bone replacement and synthetic bone implants have limitations including invasiveness of operative procedures, tissue supply insufficiency, and the risk of host rejection. The advancement in tissue engineering has promoted stem cells as restorative agents in bone injuries. Administration of mesenchymal stem cells (MSCs) into talus, scaphoid, and neck of femur could produce enhanced osteogenesis by the manipulation of MSCs culture conditions. In this study, we manipulated the culture and differentiation conditions for optimum osteogenic differentiation of MSCs.

**KEYWORDS:** Environmental factors, osteogenesis, stem cells

**Paper ID: BS-162768627**

## **Anticancer potential of flavonoids: Recent updates and future avenues**

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### **ABSTRACT:**

Flavonoids are the polyphenolic, low molecular weight phyto-constituents originated from natural source as secondary metabolism of plants or synthesized in laboratory. They have been shown exhibit a wide range of biological activity, which is clutching researchers towards its vital benefits. They have been reported to possess antiallergic, antioxidant, anti-inflammatory, antimutagenic, cardioprotective and anti-carcinogenic activities. However, the present work emphasizes specifically on chemoprotective and chemotherapeutic activities flavonoids. Flavonoid possesses the ability to deregulate development and progression of cancer. Flavonoids such as apigenin, quercetin naringenin, taxifolin, catechin, apiforol and leucocyanidin, malvidin, genistenin etc have been successfully exploited for treatment of different types of cancer including colon cancer (Caco-2, HT-29, IEC-6, HCT-15 cell lines), lung cancer (SK-LU1, SW900, H441, H661, haGo-K-1, A549 cell lines), leukemia (HL-60, K562 cell lines), breast cancer (MCF-7 cell lines) etc. Present work focuses on structural characteristics, and therapeutic potential of flavonoids cancer prevention and treatment.

**KEYWORDS:** Anticancer, flavonoids, cancer, phyto-constituents.

Paper ID: BS-184421844

## **Comparative phytochemical screening and antibacterial activity of flower, leaf and root extracts of *Spilanthes acmella* (L.)**

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### **ABSTRACT:**

*Spilanthes acmella* (L.) is a well known medicinal plant which is commonly recognized as Akarkara. It is used by the tribes for its toothache relieving properties and for curing various other ailments. The plant has been reported to possess alkamide spilanthol as the active principle accounting for most of its pharmacological activities. The present study deals with the comparative phytochemical screening and determination of antimicrobial activity of ethanol, ethyl acetate, chloroform and petroleum ether extracts of the flower, leaf and root part of *S. acmella*. The extracts were tested against three gram positive (*Staphylococcus aureus*, *Actinomyces howellii* and *Lactobacillus acidophilus*) and one gram negative bacteria (*E. coli*) by Agar Well Assay method and the zones of inhibition were measured. The results revealed the presence of phenols, flavonoids, terpenoids, alkaloids, saponins, carbohydrates and proteins in the extracts. Flower extracts were found to be a rich source of phytochemicals as compared to leaf and root extracts. Maximum antibacterial activity was observed against gram positive bacteria by the ethanol extract of flowers followed by leaf and root extracts. But only chloroform extract of the flower showed moderate activity against gram negative bacteria. The present studies proved that the plant has the potential to be developed as the source of antibacterials.

**KEYWORDS:** Antibacterial, Phytochemicals, Toothache, Medicinal plant, Ethanol extract

**Paper ID: BS-186127861**

## **Role of silver nanoparticles in revival of aged seeds**

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### **ABSTRACT:**

Nanoparticles (NPs) and nano-technological applications have accomplished a great attention worldwide, in various sectors including agriculture. In a number of instances, NPs has been applied to scavenge/ameliorate various stresses, promote seed germination/plant growth responses. In order to stimulate this propensity, the development of sustainable eco-friendly processes for NP production is of utmost importance. Therefore, in the present study, silver NP (AgNP) was synthesized following both chemical and green methods, and was assessed for their ameliorative efficiencies against accelerated ageing-induced injuries in *Cicer arietinum*. Synthesized NPs were initially characterized using standard methods such as dynamic light scattering (DLS)/ zetasizer, fourier transform infrared spectroscopy (FTIR) and UV-Vis spectroscopy. Experimental results revealed various physiological and biochemical alterations in accelerated ageing treated *Cicer arietinum* seeds along with over accumulations of reactive oxygen species and consequent decline in the gene expression/activities of key defensive genes. However, exogenous application of AgNPs provided tolerance against ageing-induced damages by compensating the cellular redox homeostasis via enhancing the levels/ expression patterns of antioxidants genes and reducing cytotoxicity in *Cicer arietinum*.

**KEYWORDS:** Antioxidants, Biological synthesis, Chemical synthesis, Gene expression, Reactive oxygen species.

**Paper ID: CS-19013490**

## **Design, Synthesis and Bio-Evaluation of Indoline-2-ones as Novel anticancer hybrids**

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### **ABSTRACT:**

A combined in-silico pharmacophore based, and structure based virtual screening is done to identify novel potential c-KIT inhibitors using Schrodinger's Maestro 9.0 molecular modeling suite. An atom-featuring 3D QSAR model was built using previously reported c-KIT inhibitors containing indolin-2-one scaffold. The developed 3D QSAR model ADHRR.24 was found to be statistically significant ( $R^2=0.9378$ ,  $Q^2=0.7832$ ) and instituted to be robust enough with good predictive accuracy, confirmed by external validation approaches, Y-randomization & GH approach [GH score 0.84 and Enrichment factor (E) 4.964]. The present QSAR model was further validated by the OECD principle 3, in that applicability domain (AD) was computed using a 'Standardization approach'. Molecular docking was studied on the c-KIT receptor (PDB ID: 3G0E).

Molecular hybrids of indolin-2-ones fused with 1, 3, 4-thiadiazolyl scaffold were synthesized. The present eco-friendly synthesis was achieved through use of green catalyst viz.  $\beta$ -cyclodextrin-SO<sub>3</sub>H in water. The catalyst was recovered and utilized for three run with almost similar reaction yield. Project work was aimed to afford the titled derivatives using recyclable green catalyst and under benign solvent as water.

Human Cancer Cell Lines study was performed through National Cancer Institute (NCI) NIH's, NCI-60 Human Tumor Cell Line Screen Program, USA. Anticancer activity was performed by Sulforhodamine B (SRB) assay. The compounds IIIc, IIIg, IIIh showed a very promising anticancer activity against Leukemia, Melanoma, Breast cancer, Renal cancer, Non-small cell line Lung cancer panel cell lines.

**KEYWORDS:** Indolin-2-one, Pharmacophore, 3D QSAR, Synthesis, Green Chemistry



**Paper ID: DDD-1186182186**

## **Antibacterial Properties of Zinc Oxide Nanoparticles on Streptococcus Pyogenes**

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### **ABSTRACT:**

Nanotechnology has emerged as a promising technique for various biomedical applications for the past few decades. Zinc oxide nanoparticles (ZnO NPs), as one of the metal nanoparticles, are widely used to treat a range of different skin conditions due to their antibacterial and dermatologic associated properties. The current study was aimed to determine the antibacterial properties of ZnONPs on the skin and wound infection causing Gram-positive bacterium *Streptococcus pyogenes* through investigating the growth inhibitory and oxidative stress effects of ZnO NPs on *S. pyogenes* along with the surface interaction of ZnO NPs on bacterial cell wall. ZnO NPs were characterized using scanning electron microscope (SEM) with energy dispersive X-ray (SEM-EDX). The growth inhibitory effects of ZnO NPs on *S. pyogenes* at 24 h were determined through percentage reduction in turbidity and colony counts upon treating with increasing concentrations of ZnO NPs from 10 to 100 µg/mL. The oxidative stress effects of ZnO NPs on bacterial cells were assessed by measuring the excessive production of reactive oxygen species (ROS) and lipid peroxidation levels using DCFH-DA and BODIPY assay, respectively, to demonstrate the underlying mechanism for growth inhibition of bacteria by ZnO NPs. Fourier transform infrared (FTIR) analysis was performed to confirm the functional groups involved in the binding of ZnO NPs on bacterial cell wall. The results showed typical dose dependent and significant ( $p < 0.05$ ) growth inhibition and oxidative stress induction on *S. pyogenes* for all the tested concentrations of ZnO NPs from 10 to 100 µg/mL at 24 h. FTIR spectrum exhibited the involvement of biomolecules such as protein, polysaccharides, intermolecular hydrogen bond, polypeptide, and glycogen from bacterial cell wall in surface binding of ZnO NPs on bacterial cells. Hence, the present study intelligibly illustrated the antibacterial effects of ZnO NPs on *S. pyogenes*.

**KEYWORDS:** Antibacterial activity, Zinc oxide nanoparticles, growth inhibition, oxidative stress, *Streptococcus pyogenes*

**Paper ID: DDD-128024280**

## **Sustained Release Delivery of Repaglinide by Biodegradable Microspheres**

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### **ABSTRACT:**

The primary objective of the present study was to prepare repaglinide microspheres for the sustained delivery of the drug for better patient care in the management of diabetics. The biodegradable microspheres of repaglinide is prepared using poly(lactic-co-glycolic acid) (PLGA) by emulsion solvent evaporation technique. The microspheres are prepared with different drug-to-carrier ratios and considering other variables (i.e. solvent, surfactant and stirrer speed) as well. The evaluation of microspheres prepared are performed on the basis of various parameters like particle size, percentage yield, drug entrapment efficiency, surface morphology (SEM), drug-polymer interaction (FT-IR study), in vitro drug release kinetics and stability studies. SEM reveals that microspheres are spherical and have nearly smooth surface morphology. The percentage yield and drug entrapment efficiency is quite well for all the formulations. FT-IR spectra show that there is no chemical interaction between the drug and the polymer. The in vitro release study data shows that the repaglinide release from all the formulations is slow and sustained up to 7 days. The various kinetic equations indicate that the in vitro drug release is of zero order release with initial burst from repaglinide microspheres. There is no appreciable difference observed in the stability study observations.

**KEYWORDS:** Biodegradable, microspheres, poly(lactic-co-glycolic acid) (PLGA), repaglinide, Surface Electron Microscopy (SEM). Fourier's Transformation Infra Red Spectroscopy (FT-IR).

**Paper ID: DDD-146330463**

## **Development of Liposomal Encapsulated Quercetin for wound healing**

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### **ABSTRACT:**

A wound is defined as a defect or break in the skin, resulting from physical or thermal damage or as a result of the presence of an underlying medical or physical condition. We aimed to develop a biocompatible, biodegradable and controlled release of quercetin loaded liposomal formulation. Liposomes quercetin (Qu) were prepared thin-film hydration method by optimizing ratio of active drugs and soya phospholipids. The prepared liposomes were characterized by in vitro studies like in vitro release study, particle size, wound contraction, excision wound model. Histopathological study showed significant ( $p < 0.06$ ) increase in fibroblast cells, collagen fibers and blood vessels formation. All parameters such as wound contraction, tensile strength, histopathological and biochemical parameters- hydroxyproline content, protein level, etc. were observed significant ( $p < 0.06$ ). SEM study of liposomes is porous morphology, wound contraction  $95.52 \pm 0.37\%$ , diffusion coefficient  $= 1.71 \times 10^{-5} \text{ cm}^2/\text{s}$ , in vitro release study 95.32%. Present results suggest an accelerated re-epithelialization under moist wound environment with delivery of quercetin effective at different stages of wound healing cascade with minimum disturbance of wound bed. It provides a direct continuous or sustained release of the antimicrobial and debriding agent at the wound surface.

**KEYWORDS:** Quercetin, Liposomes, Wound healing

**Paper ID: DDD-14637463**

## **Traditional Herbal Formulation used by tribes of Madhya Pradesh for the treatment of gynecological disorders**

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### **ABSTRACT:**

Gynecological disorders are very common among the Indian women and are more prone in tribes due to various factors among which unhygienic is one of the major cause. These disorders include vaginitis, vaginosis, yeast infections, menstrual disorders, pelvic disorders etc. The tribes are inhabitants of Madhya Pradesh. They utilize a large number of plant species occurring wild as well as cultivated in the state as traditional herbal medicine in various diseases and ailments. This investigation was undertaken to explore and record the medicinal herbs used in prevention and treatment of gynecological disorders by tribes of Madhya Pradesh. Random crossover study was performed to collect the information. The author has gathered first-hand information on 10 plant species (*Achyranthes aspera* Linn. (Root), *Calonyction muricatum* G. Don (Pedicel), *Clitoria ternatea* Linn. (Roots), *Ipomoea paniculata* (L.) R. Br. (Leaves), *Lepidium sativum* (Seeds), *Guizotia abyssinica* (L.f.) Cass. (Roots), *Michelia champaca* Linn. (Flowers), *Punica granatum* Linn. (Roots), *Plumeria pudica* Jacq. (Leaves) and *Ziziphus mauritiana* Lam. (Leaves)) and their mode of therapeutic uses from the tribes and other experienced tribal's. Also, the method of preparation along with dose duration has been documented and recorded. The present study has brought of light some interesting data on potential medicinal plants which will be screened for determining their therapeutic and pharmacodynamic properties.

**KEYWORDS:** Gynecological disorders, Herbs, Herbal Formulation, Madhya Pradesh, Tribes

**Paper ID: DDD-1635189635**

## **Colon Targeted Controlled Porosity Osmotic Pump of Curcumin**

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### **ABSTRACT:**

#### **Colon Targeted Controlled Porosity Osmotic Pump of Curcumin**

The present study was aimed to develop microbially triggered colon targeted controlled porosity osmotic pump tablet using curcumin as model drug. The effect of various formulation variables namely the level of solubility modifier in core, level of hydrophilic and hydrophobic plasticizers in semipermeable membrane, level of pore former (guar gum) in semipermeable membrane, concentration of cellulose acetate in semipermeable membrane coating layer was studied.

Release studies revealed that controlled porosity osmotic pump tablet of curcumin prevented the release in the upper GIT and specifically released the drug in colon. The drug release from the developed formulations was found inversely proportional to the level of solubility modulating agent in core compartment, hydrophobic plasticizers in semipermeable membrane and concentration of cellulose acetate in semipermeable membrane. As the proportion of guar gum was increased in coating solution, decrease in release rate of drug in small intestine and increase in release rate in colon was observed. This colon-specific drug delivery with the combinations of polysaccharides and enteric polymer with the degradation mechanisms based on pH and flora had a high potential for colon-specific drug delivery.

**KEYWORDS:** Guar gum; colon targeting; curcumin; semipermeable membrane,

**Paper ID: DDD-16418364**

## **Antibacterial Properties of Zinc Oxide Nanoparticles on Gram Negative Bacterium *Proteus Vulgaris***

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### **ABSTRACT:**

Zinc oxide nanoparticle (ZnO NP) is widely known for its excellent antibacterial property and it is non-toxic to human. Due to its versatile properties, it has become a popular choice in nanomedicine. In this present study, the antibacterial properties of ZnO NPs against Gram negative bacterium *Proteus vulgaris* were investigated. The bacteriostatic and bactericidal effects of *P. vulgaris* were determined by using turbidity and colony count methods. The oxidative stress induced during the treatment of ZnO NPs on *P. vulgaris* was investigated using the fluorescent molecular probes Dichloro-dihydro-fluorescein diacetate (DCFH-DA) and BODIPY TM 581/591 C11 to measure the levels of intracellular reactive oxygen species (ROS) and lipid peroxidation (LP), respectively. The results of the present study showed significant ( $p < 0.05$ ) growth inhibition, ROS production and lipid peroxidation at 50 and 100  $\mu\text{g/mL}$  ZnO NPs for 24 h. The involvement of bacterial cell wall biomolecules in the surface binding of ZnO NPs on the bacterial surface was determined using Fourier transform infrared spectroscopy (FTIR). FTIR spectrum proved the involvement of bacterial cell wall functional groups such as alkene, amine, acid and alkane in binding of ZnO NPs on bacterial cell membrane. The results of the present study clearly demonstrated the antibacterial activities of ZnO NPs against *P. vulgaris*.

**KEYWORDS:** Antibacterial activity, Zinc oxide nanoparticles, growth inhibition, oxidative stress, *Proteus vulgaris*.

**Paper ID: DDD-1885151885**

## **Formulation of Losartan Potassium Microspheres using Quality by Design Approach**

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### **ABSTRACT:**

In the present study, statistical experimental design approach was applied for preparing microspheres of losartan potassium by emulsion solvent evaporation technique using Eudragit RS100 as polymer. Central Composite design (CCD) was used for designing various formulations to investigate the effect of various formulation variables for obtaining an optimized formulation. The values of coefficients of the linear equations obtained by applying multiple regression analysis indicated that independent variables had significant effect on dependent variables. Based on these findings, optimized formulation of microspheres obtained with Eudragit RS100 with drug: polymer ratio of 2.756 and stirring speed of 1065.22 rpm showed spherical microparticles of uniform size ( $114.33 \pm 1.27\mu\text{m}$ ), with satisfactory percent yield ( $77.37 \pm 1.97\%$ ) and entrapment efficiency ( $77.94 \pm 1.62\%$ ). The developed optimized batch of microspheres ensured  $78.36 \pm 1.05\%$  release after 12 hours. The analysis of dissolution kinetic modeling revealed that the value of regression coefficient was found to be higher for korsmeyer –peppas and zero order model i.e.  $r^2 = 0.976$  and  $0.980$  respectively. From the results of various in-vitro evaluation parameters, it was concluded that optimization plays an important role in designing of dosage forms with desired performance characteristics. Thus, the use of design of experiments statistical tools in development of optimized formulation was found to be a better option for carrying out experimentation so that the effect of different formulation variables can be studied simultaneously in fewer trials. This could be useful in extracting more useful information hence, making the research more economical and efficient.

**KEYWORDS:** Losartan Potassium, Microspheres, Eudragit, Optimization, Central composite design



**Paper ID: DDD-1885197885**

## **Preparation and evaluation of extended release matrix tablets of nebivolol in combination of lipid-based solid dispersion and HPMC hydrogel**

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### **ABSTRACT:**

Oral administration of poorly soluble drugs presents a significant challenge because of their irregular absorption in the gastrointestinal tract and low bioavailability. The nebivolol a classical beta blocker frequently used for the treatment of cardiovascular disorder shows poor oral bioavailability leads to frequent dosing. To improve the bioavailability of nebivolol the novel matrix tablet is developed in combination with lipid based solid dispersion and HPMC hydrogel. The solid dispersion will help to improve the solubility of the nebivolol and HPMC matrix will help to release the drug in extended manner. The developed matrix tablets are evaluated for in vitro drug release and kinetic study. The solid dispersion of nebivolol showed good solubility whereas the dissolution study of the matrix tablet showed extended release of the drug for 18 h. The incorporation of HPMC improved the stability of the tablets after storage. The drug release data of the matrix tablets was fitted well to the Korsmeyer–Peppas model with n value of 0.78, which suggested the mechanism of drug release by diffusion and erosion controlled. The finding suggested the combination of lipid based dispersion and HPMC hydrogel matrix tablets of nebivolol may further be explored for in vivo evaluation and its scalability.

**KEYWORDS:** Extended release matrix tablets, nebivolol

**Paper ID: DDD-189954899**

## **Transepidermal conveyance of herbal bioactive incorporated O3FA based nanolipid carriers into hydrogel for treatment of psoriasis**

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### **ABSTRACT:**

Psoriasis is a chronic immune disorder of altered pathophysiology of skin represented by hyperproliferation and deprived parting of keratinocytes. The accessible treatment procedures, with the current single medication treatment can't treat the indications because of deprived absorption and denied skin infiltration whereas causing side effects on long term. Thus, deliverance of the therapeutics with a mix of two diversely compelling bioactives in a lipid based nanocarrier would be a creative way to deal with limitation of synthetic drug related untoward impacts with effective tranepidermal targeting. Bioactives i.e. curcumin, quercetin stacked nanosized lipocarriers were created and streamlined to accomplish the focusing on objectives. Plain and medication loaded lipocarriers were evaluated for spectral, microscopic investigation for shape and surface morphology, zeta potential, drug capture and for loading. The optimized lipocarriers were then independently fused into a nanogel structure and characterized further. The curcumin and quercetin loaded lipocarriers demonstrated  $63.143 \pm 1.12\%$  and  $31.118 \pm 2.11\%$  cumulative medication release from lipocarrier during 72 hours while decrease in medication release ( $28.60 \pm 2.13\%$  and  $19.14 \pm 1.52\%$ ) for curcumin and quercetin lipocarrier gel was seen because of extra deterrents determined by gel matrix. The skin penetration and dermis-epidermis drug distribution studies demonstrated that lipocarriers can fundamentally improve bioactives infiltration through skin in contrast with free medication while effectively giving medication deposition to dermis layer. In conclusion hydrogel fused nanolipocarrier can demonstrate to be a promising carrier for the safe dermal conveyance and retention of curcumin and quercetin for viable treatment and control of provocative and proliferative conditions in psoriasis.

**KEYWORDS:** psoriasis, bioactive, nanolipo carrier, hydrogel.

**Paper ID: DDD-1915173915**

## **Green Synthesis and Characterization of Chitosan Nanoparticles Using Dimocarpus Longan Leaves Extract and Their Antibacterial Activity**

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### **ABSTRACT:**

**Objective:** Present study was intended to perform synthesis and biological evaluation of chitosan based nanoparticles (CSNPs) of aqueous extract of Dimocarpus longan leaves.

**Method:** Study involved preparation of Dimocarpus longan aqueous extract (DLAE). DLAE was subjected to phytochemical investigation and preparation of chitosan nanoparticles (CSNPs). The CSNPs were characterized (using UV-Vis, FT-IR, SEM, FESEM, XRD and EDX) and evaluated for antibacterial potential using agar well diffusion method.

**Results and Discussion:** Decoction of *D. longan* leaves offered DLAE. The DLAE phytochemical investigation revealed presence of monosaccharides, reducing sugars, proteins, steroids, anthraquinones, coumarins glycosides, flavonoids, alkaloids, organic acid, tannic and phenolic compounds. DLAE based CSNPs biosynthesis was established based on colour change from white to pale brown. CSNPs absorbance ranged from 201-310 nm. 1% acetic acid, 1% sodium alginate, 2 mg/ml chitosan, pH 5.8 and 1 ml DLAE were optimized requirements for CSNPs biosynthesis. CSNPs characterization by FT-IR exhibited shifted bands at 3467 (O-H), 2993 and 2852 (C-H), 1771 (C=O), and 1517 cm<sup>-1</sup> (C=N). FESEM revealed that CSNPs were spherical shaped and ranged from 74.66-94.07 nm in size. XRD data displayed distinctive peaks at 2θ values of 22.28, 25.19, 34.72, 40, 71.16 and 73. Average crystallite size for CSNPs was 30.11-62.98 nm. EDX spectrum exhibited carbon (76.17%), Oxygen (22.14%) and sodium (1.53%). The antibacterial study revealed high inhibitory activity of green CSNPs against *S. aureus*.

**Conclusion:** Present study establishes biogenic CSNPs to possess high antibacterial potential against *S. aureus* and recommends CSNPs biosynthesis using DLAE as an efficient method.

**KEYWORDS:** Phytochemical, DLAE, *S. Aureus*, biosynthesis, CSNPs

**Paper ID: DDD-194888948**

## **Development and Characterization of Fast Dissolving Amorphous Drug Composites using Innate excipients**

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### **ABSTRACT:**

The objective of the present investigation was to enhance the solubility and dissolution rate of poorly soluble drug Clopidogrel by preparing it as solid dispersions in form of amorphous composites and formulating it as fast-dissolving tablets (FDTs) using various innate excipients. Solid dispersions were prepared using Mango peel pectin, Gum karaya, dehydrated banana powder, PEG 6000, and PVP K30 as carriers. Formulations were further evaluated for in-vitro dissolution and in vivo studies. In vivo studies of pure drug, selected formulation, and marketed product were carried out in male wistar rats and pharmacokinetic parameters were calculated using Kinetica software 2000. In vitro/ in vivo correlation was established. The optimized formulation containing solid dispersion of mango peel pectin and croscarmellose sodium as superdisintegrant has shown  $T_{max}$  of 0.5 hour which was highly significant ( $P < 0.01$ ) when compared with pure drug and marketed formulation. Thus, the solid dispersion prepared with mango peel pectin would be useful for delivering poorly soluble Clopidogrel with enhanced solubility and dissolution rate.

**KEYWORDS:** Clopidogrel, mango peel, fast dissolving tablets.

**Paper ID: DDD-198153981**

## **Effective Management of Manufacturing Defects to avoid Product Recalls: A Challenge to Pharmaceutical Industry**

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Education, Manipal, Karnataka, India.

### **ABSTRACT:**

Good Manufacturing Practices (GMPs) and Standard Operating Procedures (SOPs) forms the backbone of any professionally managed pharmaceutical industry. Despite having GMP systems and SOPs in place, regulators/FDAs are finding faults and wrong doing by pharmaceutical firms and identify the manufacturing defects in marketed brand or generic medicines which ultimately leads to product recall from the market. Recently, product recalls issues are becoming major threat of doing business in regulated markets. Product recalls damages the reputation, patient's perception about company/generic brand and FDAs treat these companies negatively. Manufacturing defects can be avoided by proper training of manufacturing staff, updating existing equipment, automation and identifying the probable root cause for any such manufacturing defects coupled with 100% inspection of manufactured products before release to markets. In the current study, we have captured a critical manufacturing defects of a liquid oral suspension of Erythromycin Estolate. The primary label on bottle did not have any Batch over coding information. The over coding detail is essential as it provides information about Batch Number, Manufacturing date and Expiry date. The probable root causes are investigated, and remediation is suggested in this case.

**KEYWORDS:** GMP, SOP, Product recalls

**Paper ID: FSN-12902**

## **Effect of processing methods on some anti-nutritional factors in cereals**

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### **ABSTRACT:**

Cereals are staple foods and are important sources of nutrients in both developed and developing countries. Cereals and cereal products are an important source of energy, carbohydrate, protein and fibre, as well as containing a range of micronutrients such as vitamin E, some of the B vitamins, magnesium and zinc also contribute significant amounts of calcium and iron. It contains a range of bioactive substances and there is a growing interest in the potential health benefits of millets. Millets, one of the oldest foods known to human and possibly the first cereal grain to be used for domestic purposes. It has been used in Africa and India as a staple food for thousands of years. It is suggested that people were farming millets in India about 2500BC. Foxtail millet is grown primarily in Eastern Asia, Soviet Union, Mainland China, India and Western Europe. In the United States, millets are grown principally in the Dakotas, Colorado and Nebraska. Barnyard or Japanese millet *Echinochloa frumentaceae* L. is a domesticated relative of the seed barnyard grass. It is grown for grain in Australia, Japan and other Asian countries.

Cereals like Finger millet, Pearl millet, Barley, Foxtail millet and Barnyard millet were selected and the effect of some processing treatments such as soaking, roasting, pressure cooking, microwave cooking and germination in reducing the anti-nutritional factors such as Tannin and Phytic acid content were analysed. Among the different processing methods, the maximum decrease in the tannin and phytic acid content was observed in germination followed by soaking, pressure cooking and microwave cooking. A negligible decrease was noticed in the tannin and phytic acid content of roasted finger millet. Germination and soaking were found to be the best methods in reducing the tannin and phytate content whereas, cooking methods like pressure cooking, microwave cooking and roasting have minimum effect in reducing tannin and phytic acid content of the cereals. It was concluded that germination for a period 48 hours effectively eliminates the anti-nutritional factors (Phytic acid and Tannin) in cereals followed by soaking, pressure cooking, microwave cooking and roasting.

**KEYWORDS:** Cereals and millets, Anti-nutritional factors, processing treatments

**Paper ID: FSN-137810378**

## **A perceptive study to endorse the nutritional aspects of Pearl Millet (*Pennisetum Glaucum L*) and formulated recipes**

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### **ABSTRACT:**

**Objective:** Millets have been cultivated and used for centuries back and their usage is now has been diminished and been portrayed as animals fodder. Pearl Millet has been one among the coarse millet been lost its actual value the study is to restore, enhance and infuse pearl millet (*Pennisetum glaucum L*) into commonly consumed recipes.

**Method:** It comprises two segments firstly bringing out the view points of the panellist about pearl millet and secondly evaluating the organoleptic qualities and analyzing the nutritious facts of the recipes being developed or infused with pearl millet.

**Result:** The sensory evaluation and nutritional analysis of the recipes were analyzed exhibiting the mean score for sensory attributes are satisfactorily accepted and the recipes are rich in protein and minerals.

**Conclusion:** The study concluded that organoleptic acceptance and the healthy point of views of the panelists shows the pearl millet can be considered as a functional ingredient in regular diet. Recommendation of this millet into day to day diet will bring back the healthy generations

**KEYWORDS:** Nutrition, Pearl Millet, Recipe, Restore



**Paper ID: HS-110429104**

## **The Importance of CD44 as a Tumor Biomarker and Drug Target in Cancer Therapy**

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**ABSTRACT:** CD44 is a hyluronan (HA)-binding glycoprotein that is highly expressed in cancers and regulates metastasis via CD44 recruitment to the cell surface. CD44 expression is altered during cellular malfunctioning in the process of tumor progression. CD44 has CD44s standard and CD44v variant forms. These CD44v (v1-v10) variants forms are useful as a diagnostic marker of malignancy and may be consider as a potential target for cancer therapy. CD44, also known as mesenchymal stem cell marker, is actively involved in the maintenance of microenvironemnt of heamtopoetic stem cell (HSC), maintenance of quiescence, apoptosis resistance and homing. Heamtopoetic stem cell (HSC) and Leukemia stem cell (LSC) share many common “stem-cell like” features. LSCs are key factor in disease progression and relapse. As a conventional therapy, TKIs (Tyrosine Kinase Inhibitors) are, very effective in the reduction of tumor mass but also show frequent fail to eliminate LSC residing in the secured bone marrow niche. Thus, there is a unmet requirement for combination therapy that targets bulk disease to remove LSC in order to prevent disease progression. In this study, we discussed the promising activity of anti-CD44 monoclonal antibody which blocks the HA-binding domain and initiate the apoptosis process for tumor cells.

**KEYWORDS:** CD44, Glycoprotein, Anti-CD44, CD44s standard, Cd44v variant, Stem cell marker, Cancer Progression, Metastasis, HA binding domain, HSC Hematopoetic stem cell, LSC Leukemic stem cell, Homing, Apoptosis, Quiescence

**Paper ID: HS-1312140312**

## **Medical Students' Perception of Learning Environment in New Campus of Universiti Malaysia Sarawak (Unimas): Measured by Dreem**

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### **ABSTRACT:**

"I never teach my pupils, I only attempt to provide the conditions in which they can learn." — Albert Einstein

The ultimate goal of the medical education is to produce the competent and qualified medical professionals. One essential component of medical education is to provide a good learning environment. Nowadays, the medical learning environment is being focused of research increasingly as it is the one of the important factors for efficient learning. The assessment of learning environment has been determined as a key instrument for the delivery of high quality and effective education and curriculum. Objective of this study is to evaluate the strengths and weaknesses of learning environment in new campus of medical faculty in Kotasamarahan. It was a cross-sectional, questionnaire based study and ninety year-two medical students were recruited for the study. Dundee Ready Education Environment Measure (DREEM) questionnaire was used to collect the data. The total score of DREEM was 124.05 / 200 and scores of all subdomains indicate 'More positive than negative' however there are items, 3,4,9,14,17,25,27 and 48 scored <2 which need improvements to be made to further enhance the quality of learning environment in new medical faculty of UNIMAS.

**KEYWORDS:** DREEM, Student's perception

**Paper ID: HS-131503**

## **A Survey on Knowledge of Autism Spectrum Disorder among the Healthcare and Non Healthcare Professionals of a Private Institute in Kedah, Malaysia**

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### **ABSTRACT:**

**Background:** Early detection and timely referral of Autistic children for interventions is the hallmark in the treatment of this condition. Lack of knowledge, inaccurate and obsolete beliefs contribute to current disparities in the early diagnosis and services offered throughout Malaysia and globally. It is essential to analyse the baseline knowledge about childhood autism before designing the programs directed towards bridging the knowledge gap in community level education. This study assessed the baseline knowledge about childhood autism among the healthcare and non-healthcare professionals of a private institute in Kedah, Malaysia.

**Methods:** A total of 150 healthcare and non- healthcare professionals participated in this study. The study was conducted using Knowledge about childhood autism among health workers (KCAHW) questionnaire by Muideen O Bakare et al, 2008. The questionnaire was modified according to the sample involved into 12 item self administered questionnaire to cater to both health care and non health care professionals.

**Results:** KCAHW questionnaire interestingly showed low level of awareness among both the healthcare and non-healthcare professionals. Significant misunderstandings of some of the salient features of autism were present in all the professional groups.

**Conclusion:** Diagnosis of autism is based on a combination non-medical tests, observation and professional judgment and frequent parent interviews. Having knowledge about autism can help in early diagnosis of the condition at an earlier stage and intervene it. This study concluded that there is a profound need for continued education of all the professionals across disciplines with regards to Autism.

**KEYWORDS:** autism, knowledge, education, diagnosis.

**Paper ID: HS-1334125334**

## **Progression of retinal dysfunction following sodium iodate administration in a rat model: An electrophysiological and histological assessment**

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### **ABSTRACT:**

Retinal degeneration in the eye is caused by the death of retinal cells, and it occurs as a result of various retinopathies. In recent years, various animal models have been developed to study on the efficacy of different treatment strategies to prevent retinal degeneration. The sodium iodate (NaIO<sub>3</sub>)-induced model is one that has been used to assess such treatments. Here, we characterize the progression of retinal cell death upon systemic administration of NaIO<sub>3</sub>, and assessed its impact on retinal dysfunction via electrophysiology and histology. Sprague-Dawley rats were first injected with several doses of NaIO<sub>3</sub> (0 – 80 mg/kg) and assessed over 7 d. An electroretinogram was used throughout the study to measure the rat visual response under increasing light intensities (0.003 – 3.0 cd.s/m<sup>2</sup>). Upon completion, histological sections were produced and further examined by immunohistochemical staining of retinal cell protein expression (RHO, RPE65, and PKC- $\alpha$ ). The results showed that retinal dysfunction occurred as early as two days after treatment with doses from 40 mg/kg and above. Electrophysiological responses in the retina plummeted for all tested light intensities (\*\*\*\* P  $\leq$  0.0001). Structural lesions were present throughout the retina. The expression of RPE65 and RHO also reduced, showing the loss of key retinal cells. 40 mg/kg was the minimum dose needed to induce retinal degeneration. The experiment was extended to 60 d with the selected dose and no improvement in any tested parameters were observed. Here, we described the progression of NaIO<sub>3</sub>-induced retinal dysfunction, and highlighted its importance during model development for therapeutic studies.

**KEYWORDS:** Retinal Degeneration; Sodium Iodate; Retinal Pigment Epithelium; Photoreceptors; Electroretinography

**Paper ID: HS-1375193375**

## **A MORPHOMETRIC STUDY OF LUMBAR LORDOSIS IN MALAYSIAN POPULATION**

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### **ABSTRACT:**

Evaluation of lumbar lordosis angle (LLA) is a pre-requisite in the assessment of spinal health. Any variation in the normal spinal curvature is known to adversely effect the posture resulting in low back pain. WHO has been emphasizing on the increasing incidence of obesity and its contribution to musculoskeletal disorders. Statistics released by NHMS and MOH Malaysia, also reflect a rise in obesity and low back pain in Malaysian population. Understanding the factors that adversely affect the LLA can help in designing effective screening and rehabilitation protocols for susceptible subjects. In the present observational study, LLA of Malaysian adults was observed and recorded from digital x-ray. Lumbar lordosis angle was measured from the x-rays (lateral view) of 86 Malaysians adults. The mean LLA was measured between L1 and S1 using the Cobb's method. The variations in the LLA with respect to age, gender, body mass index (BMI), waist to hip ratio and low back pain (LBP) were recorded and analysed using SPSS. Mean LLA was observed to be significantly higher in females and subjects with increased waist to hip ratio (indicating abdominal obesity). Variations in the LLA with respect to age, BMI and LBP were not found to be significant. Mean LLA observed in this study will provide a baseline reference value for Malaysian population. It can also be beneficial to physiotherapists and orthopaedicians for a general evaluation of lumbar spine and recommendation of rehabilitation measures.

**KEYWORDS:** Lumbar lordosis; BMI; W/H ratio; LBP

**Paper ID: HS-140277402**

## **Effect of selective COX-2 Inhibitors on castor oil induced diarrhea in rats**

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### **ABSTRACT:**

Abstract- Secretory diarrhea can result from bacterial toxins, reduced absorptive surface area caused by disease or resection, luminal secretagogues circulating secretagogues & medical problems that compromise regulation of intestinal function. Antidiarrheal agents remove secretagogues from the intestinal tract, stimulate fluid absorption, and inhibit electrolyte movements.

Castor oil is an effective laxative. Perfusion of the rat intestine and colon with ricinoleic acid, the active constituent of castor oil, produces fluid and electrolyte accumulation. Ricinoleic acid increases mucosal permeability of intestine and the production of cyclic AMP. The aim of present study was to investigate the role of COX-2 in the diarrhea and secretory response to castor oil. Ricinoleic acid reversed net water absorption into net secretion. It markedly increased the PGE content in the gut lumen suggesting prostaglandin (PG) involvement in the action of ricinoleic acid. Further studies supported that indomethacin, an inhibitor of COX, that synthesizes PGs, significantly inhibited castor oil induced diarrhea.

Therefore it is clear that PG is involved in the mechanism of diarrhea induction by castor oil in rats. Further studies suggest that in GIT, COX-1 acts as constitutive PG producer, thereby protecting mucosa whereas COX-2 mRNA and protein have been shown to be induced rapidly in inflammatory sites of the stomach and colon. Thus, COX-2 derived PG presumably plays a role in the repair process of gastritis, ulcers and colitis. Recent data suggests that celecoxib, a selective COX-2 inhibitor reduces diarrhea, a side effect of an anticancer agent, CPT-11.

In the present study, we have studied the effects of selective COX-2 inhibitors celecoxib and rofecoxib on castor oil induced diarrhea and fluid and electrolyte secretion in anesthetized rat colon in order to understand contribution of COX-2 derived PG in castor oil induced fluid and electrolyte secretion. We conclude that castor oil induced diarrhea and secretory effects may involve COX-2 regulated pathway. This study implicate that COX-2 may be a target for the treatment of diarrhea associated with prostaglandin release.

**KEYWORDS:** Diarrhea, Prostaglandin, castor oil, Celecoxib, Rofecoxib, Indomethacin

**Paper ID: HS-141171411**

## **e- Pravaracare: An initiative for Digitalization in Community Pharmacy to Maintain Health Record**

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### **ABSTRACT:**

Today, community pharmacists play an vital role in any country as they take responsibility for patient's medicine related needs for access to healthcare. However, in asian counties, only the supply of medicines is the core activity of the community pharmacist. Most community pharmacists in the India still hardly provide patient-oriented service. The role of the pharmacists in the community, and with it their medicine management, may change in the wake of the rapid growth of domestic medicine output and national healthcare expenditure. The digitalization will help to collect the patient medication record from birth to till date. This collected information will be saved to server and will be available 24X7 for patients and physician. These digital medical records databases will become more cost-effective and result in improved patient outcomes.

Healthcare professionals using data-driven health records will be on the cutting edge of providing patient care; using these tools, they will be able to catch human error, track therapies, monitor effectiveness of treatments, and make predictions about outcomes throughout the entire course of a patient's lifetime. With respect to the profession of medicine and malpractice, using digital medical records in software allows for increased oversight and lowered liability.

**e- Pravaracare** is android software which will help us to maintain the digital record of patient.

**KEYWORDS:** Keyword: e- Pravaracare, digitalization, community pharmacy, health record



**Paper ID: HS-1448110448**

## **Relationship of emotional intelligence and academic performance among medical students: Systematic review**

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### **ABSTRACT:**

#### **Objective:**

There is umpteen number of research elaborating the role played by the emotional intelligence on educational performance at primary and high school level but seldom among medical students. The aim of this review paper is to ascertain the relationship between emotional intelligence and academic performance among the medical students.

#### **Method:**

All articles searched using relevant finalised MeSh terms is of English language between the years 1980 to 2018 among the following electronic database Ovid -MEDLINE, PROQUEST, SCOPUS, SCIENCE DIRECT, CINAHL. Articles were further filtered based on the inclusion and exclusion criteria set up by the reviewers with mutual consent. Knowledge about academic output based on the methods involved in measuring emotional intelligence and study design was extracted.

#### **Results:**

The literature review cited 511 relevant articles. Further scrutinising of these articles by removing duplicates, considering full text articles, abstract review availed 07 articles which were considered for final review. It was found that six out of seven showed women had higher EI than men and only one of the seven showed no difference between men and women.

#### **CONCLUSION:**

In line with the literature review one can safely conclude emotional intelligence in general, improves academic performance. However in contrast it is also seen among medical students EI decreasing over the time of study years. Further research is necessary to find out the cause for this decline in emotional Intelligence during the course and whether timely intervention of structured training can improve.

**KEYWORDS:** Emotional intelligence, Academic performance, Medical students.

**Paper ID: HS-1513108513**

## **Myelosuppression and platelets depletion in dengue virus infection: A review of the pathophysiological mechanisms**

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### **ABSTRACT:**

**Most of** the tropical and subtropical areas all over the world are considered endemic regions where dengue virus infection is a permanent problem, this has resulted in extensive studies, particularly related with its pathophysiology. The clinical presentation of this disease can vary from a mild viral process that is solved within a few days to a presentation with sinister features which in case of not being treated promptly, may lead to a disastrous outcome. The understanding of the different interactions that are involved in the pathogenesis as long as reviewing the findings from recent studies, is pivotal in order to enhance the current pool of knowledge. Here we review the different mechanisms that play a role behind one of the main features of the presentation, i.e. thrombocytopenia, covering aspects related with the affection in the bone marrow as long as the interactions that lead to platelets activation. Finally, we highlight the importance of the study of these events, thus, further research can help develop better therapeutic alternatives aiming to reduce the morbidity and mortality due to this public health problem.

**KEYWORDS:** Dengue; platelets; bone marrow, thrombocytopenia, pathophysiology

**Paper ID: HS-158064580**

## **Mucoadhesive nanostructured lipid carrier for tailoring ocular drug delivery in keratomycosis**

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### **ABSTRACT:**

Keratomycosis represents one of the major causes of infectious keratitis that has a worldwide distribution ranging from 17- 36%. Regional distributions of corneal ulcers in India are 7.3% in Northern India, 32% in East India, 38.9% in West India and 32% - 39.8% in Southern India. This variation in the incidence of keratomycosis in Indian population is predictable and can be attributed to the fact that it is more common in the tropical and subtropical regions than in the temperate regions.

The ocular surface has high vulnerability to potential environmental, physical and biochemical insult due to its anatomical location and functional attributes. For most of the diseases of the anterior segment, topical instillation of eye drops is the preferred and conventional route of treatment. But after eye drop administration the contact time of the drug on the ocular surface is only a few minutes, leading to poor bioavailability issues.

The present study to cases on new aspects of mucoadhesion interaction and antifungal drugs used in ocular therapies, with unique prominence on the advances cognizable in nanostructured lipid carrier system.

**KEYWORDS:** Ophthalmic delivery, mucoadhesive system, keratomycosis, NLCs, Ocular.

**Paper ID: HS-159284592**

## **Influence of Gender on Learning Style Preferences among Undergraduate Students of Various Disciplines of Education**

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### **ABSTRACT:**

Learning style refers to gathering, processing, interpreting, organizing, and thinking of various information. Each student acquires information through different learning styles. In the contemporary, it is essential for the students to know their own learning style so that they can involve actively in processing information and thus maximizing their learning process. The aim of our study was to analyze the influence of gender on learning style preferences among undergraduate students of various disciplines of education from selected Indian universities. This cross sectional study was conducted in selected Indian universities. Final year students of various disciplines of education who were willing to participate in the study were selected. After obtaining their consent for participation, hard copies of VARK questionnaire including the demographic details was administered to the students to analyze their preferred learning styles. In general, there is no gender difference in preference style on visual, aural and kinesthetic learning but female students show more preference on read/write learning than males. In BE and BDS, male students mostly prefer visual learning style than female counterparts. However, visual learning is more preferred by female students in other disciplines (BBA, BPT, BALLB, B.Sc Nursing). Therefore, this study will help in empowering the students to learn more effectively by having an insight on the study skills suggested for their preference modality.

**KEYWORDS:** Learning Styles, VARK questionnaire, Gender

**Paper ID: HS-168467684**

## **Identification of traditional herbal water recipes to minimize the usage of plastic water bottles at hospitality sector**

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### **ABSTRACT:**

**Background:** Water - the elixir of life is also being a medium to spread many communicable diseases. The scarcity and lack of safe drinking water have been the cause for high prevalence of death rate than war or terrorism in the world.

**Objective:** The study reviews effects of water pollution, usage and ailing effects of plastics in provision of safe drinking water at hospitality sector and gives alternative and initiative suggestions to overcome those environmental crises by formulating natural and traditional methods of water treatment to serve healthy herbal water.

**Method:** Natural ayurvedic ingredients apt for treating water are explored, a systematic method of water treatment is formulated with the identified ingredients. The water is served to 30 panellist members with no regard to their age or gender. The opinion about their preference towards the organoleptic quality of the served water is recorded. The test is done with water from various part of the city.

**Result:** Water samples being served have a good score of acceptance among the panellist members Nannari water (Sample 1) has the prime acceptance than other samples.

**Conclusion:** The study exposes treating water with these natural ingredients inhibits infectious organism present in water and improves the micronutrients and nutritional value of drinking water. Besides promoting the human health it also reduces the usage of plastics and sustains the environmental wellness.

**KEYWORDS:** Drinking Water, Plastic Bottles, Tradition, Ingredient

**Paper ID: HS-170887708**

## **Mechanism of Fibrinolytic Disorders in Obesity**

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### **ABSTRACT:**

Normally, endothelium produces and releases substances that regulate and maintain the aggregation of platelet, coagulation and fibrinolytic systems. Fibrinolytic system represents a vital mechanism responsible for the protection against endothelial dysfunction and subsequent intravascular thrombosis. Molecular links between coagulation and fibrinolytic systems allow localize and accurate removal of fibrin deposits while ensuring constant blood flowing and preventing blood loss. Fibrinolytic system acts to coordinate the interaction of activators, zymogens, enzymes, cofactors and receptors, and inhibitors to dissolve fibrin deposition at any site of injury without systemic adverse effects. During tissue repair, inflammation or haemostasis, fibrin must be removed to restore the normal tissues structures and functions. The association between obesity, endothelial dysfunction, haemostatic factors and impaired fibrinolysis explained that obesity is characterized by the increased levels of circulating von Willebrand factor (vWF), fibrinogen, tissue factors (TF), factor VII, VIII and FX, further contributing to a hypercoagulable state. The Impairment of fibrinolytic system in obesity has been attributed to elevated secretion of vascular endothelial plasminogen activator inhibitor (PAI-1), abnormal thrombin activatable fibrinolytic inhibitor (TAFI) and enhanced platelet activation which is linked to the development of thrombosis progressing to cardiovascular diseases. This article reviews the molecular mechanisms involved in fibrinolytic disorders associated with obesity. The endothelial dysfunction and associated thrombosis leading to cardiovascular diseases are discussed. Developing effective physical activity and lifestyle modifications are the initial strategies to minimize obesity and its related metabolic syndromes.

**KEYWORDS:** Keywords: obesity, endothelial damage, fibrinolytic disorders, thrombosis, the linking mechanisms.

**Paper ID: HS-1735172735**

## **A Cadaveric based Morphometric Analysis of the Obturator Nerve in Thigh Region of Malaysian Cadavers**

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### **ABSTRACT:**

**Background:** The obturator nerve is one of the very important nerves of the thigh region, which has importance in the field of Anatomy and in various clinical fields.

**Objective:** This study was the first attempt to analyze the distances of the obturator nerve exit zone (ONEZ) of the obturator foramen (OF), from the various important landmarks of thigh region, involving Malaysian cadavers.

**Materials and methods:** This study was conducted on seventy eight adult, cadaveric and disarticulated, lower limb specimens of both genders. All measurements were recorded with the help of digital Vernier caliper.

**Results:** The average distance from the anterior-superior iliac spine (ASIS) to the ONEZ of OF was 107.86 mm  $\pm$  6.81 (right) & 106.73 mm  $\pm$  6.50 (left). The mean distance from the pubic tubercle (PT) to the ONEZ of OF was 29.99 mm  $\pm$  3.90 (right) & 27.05 mm  $\pm$  3.50 (left). The mean shortest distance from the inguinal ligament (IL) to the ONEZ of OF was 16.93 mm  $\pm$  1.04 (right) & 17.15 mm  $\pm$  1.05 (left). The average length of the IL from the ASIS to the point 3 was 93.97 mm  $\pm$  6.89 (right) & 95.66 mm  $\pm$  6.39 (left). The mean length of IL from the PT to point 3 was 21.24 mm  $\pm$  2.79 (right) & 20.99 mm  $\pm$  2.13 (left). The average length of the obturator nerve exposed between the ONEZ of OF and the adductor longus was 38.75 mm  $\pm$  3.16 (right) & 40.47 mm  $\pm$  2.68 (left). The mean shortest distance from the ONEZ of OF and the femoral artery was 29.71 mm  $\pm$  1.03 (right) & 26.33 mm  $\pm$  1.07 (left).

**Conclusion:** This knowledge will not only help the future researchers but will also go a long way in assisting the clinicians in preventing iatrogenic nerve injuries.

**KEYWORDS:** Obturator nerve, obturator nerve exit zone (ONEZ), obturator foramen (OF), anterior-superior iliac spine (ASIS), pubic tubercle (PT).

**Paper ID: HS-176489764**

## **ARE WOMEN SAFE AT HOME?**

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### **ABSTRACT:**

United Nations way back in 1979 adopted a resolution to eliminate all forms of discrimination against women. In 1993 the general assembly adopted the Declaration on Elimination of violence against women (DEVAW). Ours is a male chauvinistic society and women are discriminated even today in this 21st century. In India 40% of women in the age group 15-49 years had experienced spousal physical, sexual, or emotional violence as brought out by the National survey in 2005-2006. In a study carried out by the author in India it was 49%. In a study in Karnataka 98% reported physical violence. Alcohol addiction of the spouse was significantly associated with intimate partner violence. Another factor is the presence of violence in the family in which the wife grew up was also significantly associated. In Malaysia Women's Aid Organization reported an increasing trend of domestic violence with nearly 6000 cases officially reported in 2017. This is only the tip of the iceberg. Since this is a universal burning issue a strategy to empower women, educate them, marriage counseling and targeting alcoholism can address this burning issue.

**KEYWORDS:** Domestic violence, intimate partner



**Paper ID: HS-178522785**

## **Effect of eight week core muscles strength training on agility and pushup performance in male players.**

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### **ABSTRACT:**

Background: Recent scientific researches support the benefits of core exercises on various fitness components which increases the performance of the players. Objective: The purpose of the present study was to investigate the effect of core muscles strength training 5 days/week for eight weeks on agility and pushup performance in male players. Hypothesis: Core Muscle strength training gives significant differences on fitness variables. Study Design: Pre & post test experimental group design. Methods: Fifty five male (30=experimental group and 25= control group) players were selected for the study (n = 55; age =  $25.3 \pm 0.4$  years ; body height (cm)=  $167.0 \pm 1.12$ ; body weight (kg) =  $59.59 \pm 1.82$  ) who trained for 45 minutes, 5day/wk for 8 weeks , the training program included exercises with and without swiss ball. Players were randomly divided into experimental group (EG) (N=30) and control group (CG) (N=25). Subjects of the groups were evaluated on shuttle run test (SR) and pushup assessment test. The analysis of covariance was applied on data. Results: The significant effect of training program was observed between pre and post measures of speed and agility of male players and no change was recorded in pushup performance in experimental group. Conclusion: The result of the study on male players support the assumption that core muscles strength exercises can be effective tools for the players to enhance fitness. The result shows significant improvement in speed and agility performance in male players.

**KEYWORDS:**Core muscles strength training, Swiss ball Exercises, Functional core exercises, push up, agility

**Paper ID: HS-187150871**

## **Current Scenario on Pending Abbreviated New Drug Application's Suitability Petition**

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### **ABSTRACT:**

Suitability Petition (SP) is a petition (request) to Food and Drug Administration to permit the filing of an Abbreviated New Drug Application for a drug that differs from the Reference Listed Drug. According to FDA, response timeline is 90 days. While submitting the Suitability petition to the FDA the applicant should submit in the following format: a) Action Requested, b) Statement of Grounds, c) Environmental Assessment d) Economic Impact e) Certification by applicant. A type of citizen petition submitted in compliance with 21 CFR 10.30 requesting FDA to approve or disapprove a specific change. If FDA approves a SP, the generic manufacturer can file for approval of ANDA or 505(b) 2 or 351k application for the requested change. Suitability Petition contains information of the RLD and Proposed change (Comparisons) by Generics.

**KEYWORDS:** ANDA, FDA, Suitability Petition

**Paper ID: HS-1943166943**

**The awareness of text neck in medical and dental undergraduate students and correlation of smartphone-usage related neck postures and profession-related ergonomic postures leading to early development of text neck symptoms**

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**ABSTRACT:**

**Purpose:** Excessive usage of smartphones and other handheld devices with unfavorable neck postures can lead to a medical condition known as text neck. Medical and dental students who are already prone to profession related musculoskeletal disorders may be predisposed to text neck symptoms early due to a synergistic effect. The purpose of this study was to evaluate the awareness of text neck among medical and dental professionals and also to correlate whether their professional work posture acts as a risk factor for development of text neck symptoms.

**Experimental method:** A total sample of 300 participants from BDS and MBBS were randomly selected and administered a structured questionnaire containing 5 sections related to smartphone usage and professional work.

**Result:** Smartphones were the most commonly used handheld device and a significant amount of time was spent on using them. The awareness level among both groups were found to be insufficient. The number of students who experienced smartphone usage related and professional work induced musculoskeletal pain were insignificant group.

**Conclusion**

Though a direct correlation between the smartphone related neck pain and professional ergonomics was not obtained, it was worth noting that a few samples experienced musculoskeletal pain related to both entities. The young age group of samples may be a factor for the insignificant results as they have an excellent adaptive capacity. Further research is needed overcoming the drawbacks of the current study given the current scenario of technological developments and excessive use of smartphones which is on rise at an alarming pace.

**KEYWORDS:** Text neck, Musculoskeletal disorder, Smartphone, Dental, Medical

**Paper ID: HS-195783957**

## **In-vivo activity of nano-vesicular 5-alpha reductase enzyme inhibitor following topical delivery for the treatment of androgenic alopecia**

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### **ABSTRACT:**

**Object:** Androgenic alopecia (AGA) is the loss of hair mainly due to the action of dihydrotestosterone (DHT) on its receptors in the hair follicle. Dutasteride is a 5- $\alpha$  reductase inhibitor indicated for the treatment of men with AGA. On the administration of dutasteride via oral route, it may produce systemic side effects related to sexual functions. Topical administration of dutasteride using lipid based carrier systems can improve and expand the current therapeutic range and can avoid the systemic side effects of the drug.

**Method:** In-vivo testing of hair growth need to be developed to formulate the topically applied formulation. Using testosterone injection androgenic alopecia was developed in the male albino rats of two months in age. Rats were shaved and formulations containing drug were applied on them. Hair density was the main factor of growth considered, followed by general hair growth appearance of the rat. Hair density was evaluated at the beginning of the study and 21 days after the last dosing of testosterone injection as well as formulations. Result: Result shows that the topically formulated nano-vesicle formulation was more effective than the other comparative formulations and it achieved an increased rate of hair growth and increased hair density. Dutasteride reduces the conversion of testosterone to DHT in the hair follicles and thus diminishes the activation of androgenic receptor by the higher affinity androgen.

**KEYWORDS:** AGA, 5- alpha reductase enzyme, Testosterone, DHT, Topical, Nano-vesicle.

**Paper ID: HS-1961107961**

## **The Association between Comorbidities and Complications with Outcome of Melioidosis Patients in Hospital Taiping, Malaysia**

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### **ABSTRACT:**

**INTRODUCTION:** Melioidosis is a tropical infectious disease with a variety of complications and concomitant with significant mortality.

**OBJECTIVES:** We sought to evaluate the co-morbidities and complications of Melioidosis and their association with the patient outcomes.

**METHODOLOGY:** We conducted a retrospective study of (n=97) culture-confirmed definitive cases of melioidosis collected from medical records from 2016 to 2017 in Hospital Taiping, Malaysia.

**RESULTS AND DISCUSSION:** Diabetes mellitus (DM) (75.3%) was more prevalent among the patients followed by hypertension (48.5%), chronic kidney disease (15.5%), chronic lung disease (6.2%), immunosuppression (5.2%) and chronic liver disease (1%). 45.4% patients developed concomitant acute kidney injury (AKI), 33% respiratory failure, 32% metabolic acidosis, 8.2% pleural effusion, 7.2% liver and splenic abscess respectively, 3.1% lung abscess, 2.1% osteomyelitis, 1% pneumothorax and 1% varicella zoster infection. Correspondingly, overall morbidity and mortality in 2016 were 25.6% and 24.1% and in 2017 were 44.2% and 57.4% respectively ( $P>0.05$ ) Melioidosis patients complicated with AKI, respiratory failure and metabolic acidosis had a higher mortality (79.5%: 75%: 77.4%,  $P<0.001$ ) respectively. Death due to other complications were not statistically significant. Poor outcomes were substantial in DM patients with morbidity of 27.4% and mortality of 56.2%, ( $P<0.05$ ) compared to other comorbidities. Mortality was considerably worst among the DM patients who developed diabetes ketoacidosis (66.7%,  $P<0.05$ ).

**CONCLUSION:** Melioidosis is a life-threatening systemic infection with a variety of complications and often a rapidly progressive illness with high mortality, particularly among those with diabetes mellitus. Melioidosis should be considered when managing any septic diabetic patients.

**KEYWORDS:** Comorbidity, Melioidosis, Mortality, Malaysia

**Paper ID: HT-1123147123**

## **Phytochemical screening, total flavonoid and phenolic content assays of various solvent extracts of *Musa sapientum***

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### **Abstract:**

Flavonoids represent the most common and widely distributed group of plant phenolics and are abundant in foods; quercetin and rutin are the flavonoids most abundantly consumed. *Musa sapientum* is one of the well-known plants of the Musaceae family that have been used in traditional medicine since hundred years to alleviate various diseases and health problems. The objective of this research is to conduct the preliminary phytochemical screening, total flavonoid and phenolic contents assays of various solvent extracts of tepal of *Musa sapientum*. Phytochemical screening was carried out according to the method of Trease and Evans, total flavonoid content was measured by the aluminium chloride colorimetric assay and total phenolic content was estimated spectrophotometrically by Folin-Ciocalteu method. Preliminary phytochemical screening reveals the presence of phenolics, flavonoids, alkaloids, tannins, terpenoids in all the three different extracts (methanolic, ethanolic and aqueous). Polar solvents are frequently used for recovering polyphenols from plant matrices. The most suitable solvents are aqueous mixtures containing ethanol, methanol, acetone, and ethyl acetate. Tepal methanolic extract has the richest content of both phenolics and flavonoids i.e. (5.17 mg GAE/g and 0.36 mg QE/g) respectively, and aqueous extract was the least i.e. (2.02 mg GAE/g and 0.214 mg QE/g). All the extracts were not significantly different with one another ( $p > 0.05$ ). It can be hypothesised that the high contents of phenolic compounds of tepals of *Musa sapientum* indicated that these compounds contribute to the antioxidant activity and can be regarded as promising plant species for natural sources of radical scavenging activity with potential value for treatment of many life threatening diseases. The process of extraction and identification of active principles responsible for the free radical scavenging property of tepal extract of *Musa sapientum* through bioactivity guided fraction is under progress in order to understand the possible mechanism of action. Utilization of this tepal will be of advantage to mankind and increased in its consumption will help in prevention of chronic life style diseases.

**KEYWORDS:** *Musa sapientum*, Phenolics, Flavonoids, Alkaloids, Tannins, Terpenoids

**Paper ID: HT-1163130163**

## **Escalating focus of indian medicinal plants in treating the worldwide health issue: diabetes**

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### **ABSTRACT:**

The incidences of lifestyle diseases are very common and large proportion of population is getting affected. The cases of diabetes, obesity and cardiovascular diseases had shown enormous progression in the last decade and evolved as the most focused area of drug discovery and formulating research. Herbal medicines are also contributing as an alternative therapy, due to their vast efficiency in disease management and also these medicines have less or none side effects. Indian herbs are getting popularity with the scientific exploration of its rich flora and fauna for anti diabetic potential. Many Indian medicinal plants are worldwide used in herbal preparations and people are striving them for the achievement of good health in case of chronic cases of diabetes also. Plants like *Eugenia jambolana*, *Allium cepa*, *Pterocarpus marsupium*, *Syzigium cumini*, *Trigonella foenum graecum*, *Gymnema sylvestre* etc are few extensively explored plants. The search of new molecule and phytopharmaceutical from many such Indian herbs for the effective treatment and management of diabetes is the thrust area of research. Many anti diabetic polyherbal formulations prepared from Indian medicinal plants are also available in the market and becoming the preferred choice in the long term treatment and management of diabetes. The global acceptance had laid to the development and growth of many new herbal preparation industries and now they are also contributing a major share in the health care product market both globally as well as in the domestic market.

**KEYWORDS:** Indian medicinal plants, alternate therapy, diabetes, herbal preparation industries

**Paper ID: HT-120312203**

## **Approaches in fostering quality control and standardization parameters of some endangered medicinal herbs of Madhya Pradesh, India**

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### **ABSTRACT:**

Medicinal plants are important source for pharmaceutical manufacturing. At present as the herbs are gaining importance due to fewer side effects and more efficiency, majority of formulation are prepared from herbs. Herbal cosmetics, herbal skin preparations, herbal anti-oxidants are now-a-days in great demand. The herbal medicines however, suffer from lack of standardization parameters. The main limitation is the lack of standardization of raw materials, of processing methods and of the final products, dosage formulation, and the non existence of criteria for quality control. It is necessary to introduce measures on the regulation of herbal medicines to ensure quality, safety, efficacy of herbal medicines and their products by using modern techniques. Authenticity, purity and assay are most important aspects of the standardization and quality control of plant materials. Quality control of medicinal plants starts right from identification of plant is of prime importance. WHO has already emphasized the need to ensure quality control of medicinal plant and their products by using modern analytical technique such as HPTLC, HPLC, GC-MS etc. In order to overcome certain inevitable shortcoming of the Pharmacopoeial monograph other quality control measures must be explored. Madhya Pradesh a Central part of India is among the important megabiodiversity centers of India with nearly more than 10,000 plant species. It has a rich heritage of traditional knowledge. Lack of appropriate quality control measures at various stages of product development is one of the major issues herbal medicines are facing today. The present work was made to foster quality parameters towards standardization and quality control parameters of few endangered medicinal herbs viz., *Goriosa superba*, *Ipomea paniculata*, *Diplocyclos palmatus*, *Saromattum guttatum*, *Chlorophytum borivilianum*, *Rouwalfia serpentina*, *Curcuma angestifolia*, *Andrographis paniculata* of Madhya Pradesh, India.

**KEYWORDS:** Quality control, Medicinal Plants, Standardization



**Paper ID: HT-1306149306**

## **Antidiabetic and antioxidant activity of momordica charantia in alloxan induced diabetic rats**

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### **Abstract:**

A large number of medicinal plants are effectively being used in traditional medicine in different parts of the world to treat diabetes. Antidiabetic activities and various pharmacological properties of different parts of *Momordica charantia* has been studied by number of investigators. In the present study the antidiabetic and antioxidant activity of the oral administration of ethanolic extracts of fruits and seeds of *Momordica charantia* (MC) on male albino rats of wistar strain has been tested. The alloxan induced diabetic rats were divided in to 5 groups of 6 rats each and MC treatment was continued for 15 days. Body weight, urine sugar, blood glucose, cholesterol, triglyceride, liver glycogen, total protein, and Albumin were estimated. Blood glucose levels were reduced significantly. The determination of activity of Amylase, Hexokinase, Glucose-6-Phosphatase, SGOT, SGPT, ACP, ALP and scavenging enzymes SOD, GPx, GR and Catalase was also carried out. The results showed that there was a significant decrease in blood glucose and restoration of the body weight and urine sugar to near normal. A significant falls in blood sugar level. ( $P>0.05$ ) was brought about by extracts of leaf, fruit and seeds of *Momordica charantia* in group C, D and E respectively when compared to diabetic control. Marked increases in serum cholesterol and serum triglyceride were observed in diabetic rats. Hepatic glycogen was significantly lowered ( $P>0.03$ ) due to its impaired synthesis during diabetes The elevated level of cholesterol, triglyceride and depleted glycogen were replenished and changes were observed in the serum lipoprotein fractions and the reduced protein and A/G ratio was reverted to near normal in all treated groups. The functions of serum Amylase SGOT, SGPT, ACP, ALP were altered significantly ( $P>0.05$ ) and decreased activity of Hexokinase, SOD, GPx, GR and Catalase in diabetic rats were improved significantly ( $P>0.05$ ) upon MC treatment.

**KEYWORDS:** *Momordica charantia*, Medicinal plants, Antidiabetic, Antioxidant, Alloxan

**Paper ID: HT-1357178357**

## **Self-managing hypertension using crude herbs among patients: A cross-sectional study**

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### **ABSTRACT:**

Hypertension contributed to the highest risk factors to the global disease burden. Persons with hypertension are at higher risk of morbidities and premature mortality, such as ischemic heart disease and stroke. The major barriers for hypertension treatment and control include reluctance to change the lifestyle and non-compliance to medicine and follow-up. In previous studies perceived that integration of herbal-based medicine linked with non-compliance to modern medicine for the treatment of hypertension. The aim of this study was to determine how the integration of crude herbs, minimally processed raw herbs embarrassed by patients in managing hypertension. A descriptive-based cross-sectional study was conducted among patients with hypertension attending the Kampar government health clinic between January and May 2019. The patients were approached conveniently and data was collected using a self-designed questionnaire and analyzed using SPSS, ver. 25. Out of 167 patients approached with hypertension, 23% were reported using crude herbs. The use of crude herbs reported prevalence among hypertensive patients were: aged between 56-65 years-old, female, Chinese, had no income, and possess secondary education ( $p < 0.05$ ). The patients' used herbs: *Momordica charantia*, *Malus Domestica* and *Citrus limon*. These herbs were eaten raw or made into juice, was embarrassed in hypertension management based on traditional belief and to assist conventional medicine. The participants perceived that these herbs effective in lowering blood pressure and blood glucose. However, they do not follow structured guidelines while integrating the crude herbs; crude herbs' typical dose and regime found different from one individual to another individual. In conclusion, the present study deduces on the need to ensure healthcare professionals awareness about the crude herbs and its use while treating hypertension.

**KEYWORDS:** Hypertension, crude herbs

**Paper ID: HT-1435181435**

## ***In vivo* antidiabetic effects of aqueous methanolic bark and leaf extract of avicennia marina**

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### **ABSTRACT:**

**Objective:** The objective of the study was to investigate the in vivo antidiabetic effects in the aqueous methanolic extract of bark and leaf part of Avicennia marina.

**Methods:** The animals were separated into five groups and each group has six number of Wister rates and a total number of 30 Wister rats (24 diabetic surviving rats, 6 normal control rats) were used. Antidiabetic potential of leaf and bark extracts of Avicennia marina was studied with Streptozocin - Nicotinamide injected type II diabetic model. Estimate the effect of Avicennia marina leaf and bark extract on body weight (g.), Serum glucose level (mg/dL), haemoglobin, glycosylated haemoglobin (HbA1C) and total protein level of normal and diabetic rats.

**Results:** The increased body weight, decreased blood glucose, glycosylated haemoglobin and other biochemical parameters level were observed in diabetic rats treated with bark and leaf extract of Avicennia marina compared to diabetic control rats. The diabetic rats treated with both parts of the plant extracts were produced the significant reduction in blood glucose level. This indicates the bark and leaves part of the plant extract was able to possess the ability to manage glucose level as well as controlling muscle wasting.

### **Conclusion:**

In conclusion, the present study clearly demonstrates that the Avicennia marina leaf and bark extract the lowering blood glucose action in diabetic condition. Further, unambiguous mechanisms and sites of these activities and isolation of active constituent of the extract are still to be determined.

**KEYWORDS:** Avicennia marina, antidiabetic, Streptozocin

**Paper ID: HT-1465102465**

## **Phytochemical screening of crude extracts of some indian medicinal plants with special emphasis on their antidibetic activity**

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### **ABSTRACT:**

The present scientific investigation deals with the extraction of some Indian medicinal plants include, Manilkara hexandra Roxb. Stem bark (Sapotaceae), Strychnous Potatorium Linn. Dried seeds (Loganiaceae), Salacia reticulata Wight. Stem bark (Celastraceae) and identification of chemical constituents by using preliminary phytochemical tests. The extracts were screened for their potential in-vitro anti-diabetic studies so as to ensure the biological potency of the plant. The study also includes qualitative screening of the phytonutrients, Free radical scavenging activity by DPPH assay method and assessment of total antioxidant activity by phosphor-molybdate assay method were evaluated. From the study we revealed that the all plants contain various classes of secondary metabolites and also possess a moderate anti-diabetic activity it terms of alpha amylase inhibition.

**KEYWORDS:** Manilkara hexandra, Strychnous Potatorium, Salacia reticulata, Anti-diabetic activity, Alpha amylase inhibition.

**Paper ID: HT-1528129528**

## **Global scenario in the use valuable indian herbal medicines for effective management of obesity**

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### **ABSTRACT:**

Nutrition and life style related disorders like obesity, diabetes, sleep disorders, hypertension etc. are one of the major causes of deaths and other illnesses in many of the developed countries. The modernization of our diet with high energy, high lipid containing foods is a major cause and less physical work or energy expenditure have encroached in our daily routine. Both the urban as well as rural population of world is facing the similar challenges. The differences is, rural population is not aware of the causes and even do not know the best practices to come out of it and the urban population is not much working on resolving the situation may be due to adaptation of the lifestyle, scarcity of time, work pressure and stress. Indian herbs have scientifically been explored to find out the more effective and economic way to treat obesity. The hypolipidaemic activity of many Indian herbal medicines like *Pongamia glabra* Vent. *Commiphora wightii* (Arn.), *Pterocarpus marsupium* Roxb, *Celastrus paniculatus* Willd, *Aegle marmelos* (Linn) etc. have been evaluated and many herbs like *Dioscorea bulbifera* Linn. have shown hunger depression activity. The continuous research on ethnopharmacological evidences on anti obesity potential of Indian herbal drugs has drag the attraction of many Pharmaceutical Industries. The popularizations of the alternate medicines worldwide have gain tremendous focus since the last decade for the effective management of obesity by the use of Indian herbs both in developed as well as developing country.

**KEYWORDS:** lifestyle disorder, Obesity, Indian herbs, hypolipidaemic activity

**Paper ID: HT-15617756**

## **Self-managing Diabetes Mellitus Using Crude Herbs Among Patients: A Cross-sectional Study**

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### **ABSTRACT:**

Globally and in Malaysia, the prevalence of diabetes mellitus (DM) is on the rise. Although modern medicine obtained positive impacts, yet there are certain limitations encountered in the management of DM due to medications adverse effects and non-compliance by the patients themselves. In previous studies, herbs have been valued as a supplement in treating DM. Hence, this study aimed to determine the use of crude herbs by patients in managing DM. The descriptive-based cross-sectional study design was employed among patients attending Klinik Kesihatan Kampar, Perak. A self-designed questionnaire was utilized to interview patients aged 18-year-old and above with DM condition. The data was analysed using SPSS ver. 25. A total of 106 DM patients were recruited from January till March 2019. The prevalence of herbs users among DM patients was 26.4%. The socio-demographic details of DM patients were: aged between 56 - 65 years old, females (62.3%), Malay ethnicity (45.3%), possesses secondary education (48.1%) and housewife (55.7%) with no incomes (77.4%). A total of 22 types of crude were identified used by DM patients for self-managing DM, for example, bitter melon (*Momordica charantia*) and apple (*Mallus pumila*). The fruits decoction of bitter melon was used to reduce glucose level while blended apple in a form of juice was used to reduce blood sugar, blood pressure and increase the fullness of the stomach. In conclusion, the present study stresses the need to ensure healthcare professionals awareness about the use of herbs while treating DM and help the DM patients to make an informed decision on the crude herbs.

**KEYWORDS:** Diabetes mellitus, Crude herbs

**Paper ID: HT-168570685**

## **Development of fingerprinting methods (UV, HPLC & HPTLC) in Navasaya Churna**

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### **ABSTRACT:**

Ayurvedic formulations are available in variety of dosage form i.e. solid, semisolid and liquid dosage forms. The most popular ayurvedic formulation is solid dosage form and has captured a major share of world market in ayurvedic formulations. Formulation such as churna, gutika, and vati has gained popularity due to convenience of administration, stability and uniformity. The present work is designed to develop fingerprinting methods of formulations Navasaya Churna which is official in Ayurvedic Formulary of India, Ayurvedic Pharmacopoeia of India and cited in standard traditional literature of ayurveda i.e. Shusrut Samhita, Bhasaijya Ratnavali, Charak Samhita etc. The selected formulation is mentioned in list of essential ayurvedic drugs recommended by Central Council of Ayurveda. Navasaya Churna, is formulation which are manufactured on large scale and used frequently by the physician of the country whereas are described in classical Ayurvedic text and are manufactured by the state pharmacies for their use in Ayurvedic hospitals and dispensaries Selective and efficient analytical methods are required not only for quality assurance but also for authentication of herbal formulations. A simple, rapid and valid UV, HPLC, HPTLC fingerprint method has been developed. The estimation was carried out with three laboratory batches and one marketed formulation of Navasaya Churna and crude drug containing piperine, plumbagin, gallic acid and tannic acid for UV and piperine, gallic acid and plumbagin for HPLC and HPTLC

**KEYWORDS:** Churna, Fingerprinting methods, Ayurveda, Piperine.

**Paper ID: HT-169397693**

## **In vitro studies of NLCs based topical hydrogel for co-delivery of dually acting bioactives for effective treatment of psoriasis**

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### **ABSTRACT:**

Psoriasis is a complicated immune-related skin disorder of atypically separating keratinocytes. The topical treatment approaches, with the current medication treatment, are lavish in focusing on ailment indications because of poor retention and denied skin infiltration causing untoward impacts. In the present examination, two diversely acting bioactives were stacked in nanosized NLCs for accomplishing the targeting parts of meds and portrayed for size, shape, surface morphology, entanglement, and medication loading. Improved medication stacked NLCs were then independently consolidated into the gel and studied further. Both the bioactives stacked NLCs demonstrated appropriate medication release from lipocarrier during 72 hours while the decrease in medication discharge was seen because of extra obstructions indicated by gel network. The in-vitro studies demonstrated that NLCs fundamentally improved medication infiltration through the skin and successfully control the incendiary and proliferative signs of psoriasis.

**KEYWORDS:** psoriasis, hyper proliferation, keratinocytes, bioactives, curcumin, NLCs based gel.



**Paper ID: HT-1704143704**

## **Contraceptive action of neem leaf extracts on spermicidal activity in human & rat spermatozoa**

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### **ABSTRACT:**

In the midst of the global epidemics of both unwanted pregnancies and sexually transmitted infections (STIs), possibilities that provide protection with minimal side effects are ideal. Therefore demand is increasing for vaginal contraceptives which protect from infection too. The spermicidal activity was determined using a modified method of Sander and Cramer. The extract was mixed with sperm suspension containing sperm. The mixture was mounted on the stage of Polarized microscope for 20 s at 100x (oil immersion) and observed for motile sperm. The spermicidal activity of novel aqueous neem extract on rat spermatozoa was same as in case of human spermatozoa. The MEC of NANE was found to be 2.5 mg/ml and 5 mg/ml in rat and human spermatozoa respectively. The present study reveals the novel, single step, cost effective contraceptive preparation and evaluation of its in-vitro spermicidal effect in human as well as rat spermatozoa.

**KEYWORDS:** Contraceptive; Neem leaf extract; Novel method of extraction; In-vitro spermicidal activity in human spermatozoa.

**Paper ID: HT-172146721**

## **Development of validated Chemical fingerprint for an ancient herb used in Ayurvedic formulation**

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### **ABSTRACT:**

Dasmularistha is a most trusted ayurvedic formulation among the ayurvedic medicines. Dasmularistha is mentioned throughout the ancient literature of ayurvedic medicine and used for postpartum disorders, postpartum depression, and sluggish uterus. A simple, sensitive, selective, precise and robust high-performance thin-layer chromatographic (HPTLC) method was developed and validated for the determination and routine analysis of apigenin in a Traditional Indian formulation (Dasmularistha) & its crude drug extracts. The validation parameter of developed HPTLC Method was found to be reproducible. Analysis was performed on TLC aluminium plates pre-coated with silica gel 60F-254 as the stationary phase. Linear ascending development was carried out in twin trough glass chamber saturated with mobile phase consisting of toluene: ethyl acetate: formic acid (6:2:2). Camag TLC scanner III was used for spectro densitometric scanning and analysis in absorbance mode at 265 nm. The system was found to give compact spots for apigenin ( $R_f$  value of  $0.39 \pm 0.02$ ). The HPTLC linear regression analysis data for the calibration plots showed good linear relationship ( $r^2 = 0.9995 \pm 0.0003$ ) in the concentration range 200–600 ng spot<sup>-1</sup> with respect to peak area, moreover the method was validated for precision, recovery, robustness and ruggedness according to the International Conference on Harmonization (ICH) guidelines. The apigenin content was quantified and estimated from the formulation & the Gmelina arborea plant part. Statistical analysis of the data showed that the method is reproducible and selective for the quantitative determination of apigenin.

**KEYWORDS:** Dasmularistha, HPTLC, Validation

**Paper ID: HT-1808580**

## **Development and Characterization of A Herbal Formulation of Plant Extract for Treatment of Filariasis**

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### **ABSTRACT:**

Filariasis is caused by a group of parasitic worms that are transmitted through the bites of infected mosquitoes. Globally, 947 million people in 54 countries are at a risk of getting affected by filariasis. The purpose of the present work is to determine antifilarial effect of a plant extract with the help of in-vitro model and formulate and evaluate novel herbal formulation of the plant *Tephrosia purpurea* extract for effective treatment of filariasis. The formulation was prepared using the plant ethanolic extract in different ratio and different materials. The formulation was evaluated using the following parameters like appearance, pH, Spreadability, drug release, rheological properties, extrudability useful for effective treatment of filariasis. The flavonoids content found in the plant are more effective to show better antifilarial effect. In future; in-vivo study on different animals models can further prove the effectiveness of formulation for treatment of filariasis.

**KEYWORDS:** Herbal formulation, flavonoids, *Tephrosia purpurea*, MTT

**Paper ID: HT-181514815**

## **Phyto-pharmacological significance of *Abelmoschus moschatus* Medik.: An indigenous medicinal herb of India**

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### **ABSTRACT:**

India has a rich treasure of medicinal plants due to the diversity of agro-climatic conditions spread over the country from tropical to temperate zones, costal plains to high attitudes and semi-arid to highly humid evergreen forests, therefore, it is an advantageous position to produce a number of crude drugs. *Abelmoschus moschatus* Medik. is an aromatic and medicinal plant in the Malvaceae family, commonly known as ambrette or musk mallow or kasturi bhendi which is native to India. It is an erect hispid herbaceous trailing herb that grows up to 1.5m tall with a long slender tap root. The present study is related to the phyto-pharmacological significance of *Abelmoschus moschatus* Medik. a indigenous medicinal and oil yielding plant of India. The selected plants are either used by the traditional practitioners for its effect or cultivated in large quantity for its oil and have been scientifically proven for its beneficial effects. In India, roots, leaves and seeds of ambrette are considered valuable traditional medicines. The bitter, sweet, acrid, aromatic seeds are used as a tonic and are considered cooling, aphrodisiac, opthalmic, cardiotonic, digestive, stomachic, constipating, carminative, pectoral, diuretic, stimulant, antispasmodic, deodorant, and effective against kapha and vata, intestinal complaints, stomatitis; and diseases of the heart. According to Unani system of medicine seeds allay thirst, cure stomatitis, dyspepsia, urinary discharge, gonorrhea, leucoderma and itch. Roots and leaves are cures for gonorrhea. The seeds are valued for the volatile oil present in the seeds. Seed analysis report 6% mucilage, 11.1 % moisture, 31.5 % crude fiber, 14.5 % lipids, 13.4 % starch, 2.3% protein, 5% resins and 0.2 to 0.6% volatile oil.

**KEYWORDS:** *Abelmoschus moschatus*; Phytochemistry; Pharmacology; Traditional uses

**Paper ID: HT-1886175886**

## **Bioactivities of *Cissus quadrangularis* and *Trichosanthes cucumerina***

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### **ABSTRACT:**

The study appraised the antioxidant content, free radical scavenging ability, antimicrobial and antiglucosidase activities of *Cissus quadrangularis* and *Trichosanthes cucumerina*. The sample were subjected to phytochemical screening for presence of secondary metabolites. The total phenolic content and total flavonoid content of the stem of *Cissus quadrangularis* and the fruit of *Trichosanthes cucumerina* were determined using Folin-Ciocalteu and aluminium chloride methods respectively. The free radical scavenging activity was assessed using DPPH, NO, iron chelating, and ABTS assay. Antimicrobial activity was done using disc diffusion method.  $\alpha$ -glucosidase inhibitory activity was done using the plant extract. The statistical analysis was done to establish possible correlation between total phenolic content and total flavonoid content against antioxidant activity of two extracts. Both total phenolic content and total flavonoid content were higher in *Cissus quadrangularis* ( $5.32 \pm 0.07$  mg GAE/g) and ( $14.79 \pm 0.2$  mg GAE/g) respectively. *Cissus quadrangularis* also showed supremacy towards exhibiting the highest radical scavenging potential (EC<sub>50</sub>) and reducing potential in all the antioxidant assays performed (DPPH=0.369mg/ml), (NO=0.670mg/ml), (ABTS=0.432mg/ml) and Iron chelating=0.806mg/ml). Positive correlation between total phenolic content, total flavonoid content and antioxidants' potential in scavenging free radicals (EC<sub>50</sub>) revealed the strong influence of both phenolic and flavonoid contents on the antioxidant activity of *Cissus quadrangularis* and *Trichosanthes cucumerina*, while both the vegetables did not exhibit any antibacterial activity. *Trichosanthes cucumerina* showed potent inhibition against  $\alpha$ -glucosidase (73.16%). Both *Cissus quadrangularis* and *Trichosanthes cucumerina* showed promising result as a source of antioxidant and a wholesome functional food with health promoting activities.

**KEYWORDS:** *Cissus quadrangularis*, *Trichosanthes cucumerina*, antioxidant activity, Antibacterial activity, antiglucosidase

**Paper ID: MB-1466154466**

## **Bioinformatics approach in identifying potential target gene for leptospirosis molecular diagnosis**

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### **ABSTRACT:**

Leptospirosis is an endemic zoonotic disease, which has reemerged as a significant public health issue in both developed and developing countries. The leptospirosis diagnosis frequently hampered by the biphasic nature of leptospira and a large array of pathogenic leptospiral strains. Our knowledge regarding the virulence factors of the leptospira might be enhanced by modern advances in molecular genomics of *Leptospira* genus. The knowledge may use to improve drawback in currently available diagnosis methods. This study explores LipL32, one of the dominant outer membrane protein (OMP) expressed during leptospirosis infection. The aim of the study is to extract as much as possible details about the LipL32 protein and to evaluate its suitability to be potential target gene in molecular diagnosis method. The study conducted using in-silico computational approach. The availability of the protein region checked in 16 different leptospiral strains from five species. The analysis consists of finding conserved region among tested strains through multiple sequence alignment, checking evolutionary relationships through phylogenetic tree construction, characterization of physicochemical properties of the protein, obtain matured protein region by identify signal peptides, followed by protein folding model and prediction of their secondary structures. The findings revealed some interesting facts about the protein, like all protein region tested in different pathogenic leptospiral strains closely related to each other and shown dominant conserved blocks. This fact permit conserved region of LipL32 protein as a reliable antigen that might use in molecular diagnosis method.

**KEYWORDS:** leptospirosis; virulence factor; diagnosis; bioinformatics

**Paper ID: MHS-126823268**

## **Medical Tourism in India: A Contemporary Study**

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### **ABSTRACT:**

Medical Tourism is the activity of travelling to other countries to obtain superior medical treatment, healthcare or wellness by highly skilled doctors at affordable costs, combined with leisure, fun and relaxation. Medical Tourism is trending in India and medical tourist patients from all parts of the world are flocking in. This study aims to identify the major medical treatment methods and understand the opinions and problems of foreign tourist patients regarding medical tourism in India. This study would be useful to determine the various factors which influence the decision-making, growth and development of medical tourism in India. Structured interview schedule has been used to collect the primary data from foreign medical tourist patients in the mega metropolitan cities in India using purposive sampling method. Findings reveal that factors such as low cost, easy accessibility, high scale and range of treatments provided by India differentiate it from other medical tourism destinations in the world. There are several internationally accredited hospitals equipped with the latest facilities and technologies to cater to the needs of the medical tourists. Indian hospitals have expert doctors and staff to provide cost-efficient and quick medical treatments and surgeries, while providing assistance in getting and extending medical visa. This paper also recommends some strategies for further promoting medical tourism to build and promote the image of India as a high quality medical tourism destination. The growth in India's medical tourism market shall serve as a boon for several associated industries including hotels, medical equipment and pharmaceuticals.

**KEYWORDS:** Medical Tourism, Hospital, Healthcare, Travel, Tourist Patient.

**Paper ID: MHS-127969279**

## **A study on identifying factors affecting university – Industry technology transfer – indian perspective**

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### **ABSTRACT:**

**Objectives:** In recent years, there is a greater emphasis on transferring inventions and technologies originating from academia to industry through technology transfer/ licensing or commercialization. The efforts of the Government of India is to create socially useful technologies through university- industry technology transfer. The objective of the study is to examine and understand the enabling factors and barriers for technology transfer among Indian Universities.

**Methods:** Convenience sampling methods was used. Top ranked universities in India according to NIRF 2018 were approached to fill a structured questionnaire that was reviewed by experts. We carried out a pilot study among 13 universities to understand the barriers.

**Results:** The technology transfer is more prevalent in Public funded universities than private universities. The revenue generated from such activities is less than the research spent.

**Conclusion:** Though Indian universities have potential for research, the inadequate policies and lack of awareness on commercialization among the researchers is the barrier for knowledge dissemination from academia to industry. The lack of trust among the stakeholders and time constraint in deliverables by the researchers is considered the second barrier for commercialization of academic research. The probable solutions could be to create centralized repositories of technologies available at universities on a platform maintained by Government of India to provide the required assistance

**KEYWORDS:** Technology commercialization, university- industry collaborations, technology transfer models, technology licensing.



**Paper ID: NT-1105910**

## **5-Fluorouracil encored PLGA nanoparticles for treatment of colorectal cancer**

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### **ABSTRACT:**

Colorectal cancer (CRC) is a frequently detected cancer worldwide. Wheat germ agglutinin (WGA) conjugated polylactic-co-glycolic acid (PLGA) nanoparticles loaded with 5-fluorouracil (5-FU), were prepared and evaluated under in vitro conditions. Nanoparticles (NPs) were investigated for particles size, size distribution, zeta potential, surface morphology, percent drug entrapment and in vitro release of drug in the simulated intestinal fluid. Optimized NPs formulation was conjugated with WGA and further characterized by WGA conjugation efficiency, mucoadhesion, and cytotoxicity study. A decreased zeta potential i.e.  $-17.9 \pm 1.4$  mV was observed after conjugation with WGA, demonstrated that deviations in the particle charge of NPs were owing to lectin(s) conjugation. WGA conjugated nanoparticles sustained the drug release significantly ( $p < 0.05$ ) over a period of 24 h when compared to the marketed formulation of 5-FU. The Higuchi type drug release kinetics was perceived from NPs, i.e. the release was mainly diffusion controlled. WGA conjugated PLGA NPs indicated considerable inhibition of colon cancer cells (HT-29 and Colo 205) in comparison with non-conjugated nanoparticles and pure drug solution. A measurable number of counts of  $^{99m}\text{Tc}$ -tagged WFUNP3 formulation after 24h study period suggested retention of nanoparticles for a prolonged period of time in the colonic region. The blood plasma level was found to be prolonged and was detectable up to 24 h with conjugated formulations. The enhanced bioavailability and eliminated half-lives of 5-FU formulation was observed in the present study which is attributed to the WGA conjugation with designed formulations. These results suggested that WGA conjugated PLGA nanoparticles could be considered as a promising carrier for the treatment of colorectal cancer. Results suggest that the WGA conjugated NPs are more efficient carrier as compared to non-conjugated NPs for the effective management of colorectal cancer.

**KEYWORDS:** 5-Fluorouracil, Nanoparticles, PLGA, Wheat germ agglutinin, Gamma scintigraphy

**Paper ID: NT-1109184109**

## **Antibacterial properties of zinc oxide nanoparticles on *Pseudomonas aeruginosa***

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### **ABSTRACT:**

In the recent days, the involvement of nanotechnology into other aspects has brought advancement in environmental and medical approach. Nanotechnology has emerged as a promising technique for various biomedical applications. Zinc oxide nanoparticles (ZnO NPs), as one of the metal nanoparticles, are widely used to treat bacteria causing skin and wound infections due to their antibactericidal effect. The current study was aimed to determine the antibacterial properties of ZnONPs on the skin and wound infection causing Gram-negative bacterium *Pseudomonas aeruginosa* through investigating the growth inhibitory and morphological changes caused by ZnO NPs on *P. aeruginosa*. The growth inhibitory effects of ZnO NPs on *P. aeruginosa* at 24 h was determined through percentage reduction in turbidity and colony counts upon treating with increasing concentrations of ZnO NPs from 5 to 150 µg/mL. Fourier transform infrared (FTIR) analysis was performed to confirm the functional groups involved in the binding of ZnO NPs on bacterial cell wall. Scanning electron microscopy (SEM) was done to identify the morphological changes in the bacterial cells. The results showed typical dose dependent and significant ( $p < 0.05$ ) growth inhibition on *P. aeruginosa* for all the tested concentrations of ZnO NPs from 5 to 150 µg/mL at 24 h. FTIR spectrum exhibited the involvement of biomolecules from bacterial cell wall in surface binding of ZnO NPs on bacterial cells. SEM images revealed the alterations in cell membrane, cell membrane rupture and cell fragmentation. Hence, the present study illustrated the antibacterial effects of ZnO NPs on *P. aeruginosa* through growth inhibition, cell membrane damage and cell fragmentation.

**KEYWORDS:** Antibacterial activity, Zinc oxide nanoparticles, growth inhibition, *Pseudomonas aeruginosa*

**Paper ID: NT-1138168138**

## **Formulation of nanocarrier system for the management of cancer via combination chemotherapy regimen**

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### **ABSTRACT:**

Combination drug therapy for cancer treatment is accepted worldwide due to the generation of synergistic anticancer effects; restrain in multidrug resistance (MDR) or tumor resistance by different mechanisms of action and minimization of dose-dependent toxicity. Nanostructure lipid carrier system can provide a more effective approach to targeting cancer by focusing on the vascular, tissue, and cellular characteristics that are unique to solid tumors. In the present study, folic acid-conjugated (FA) nanostructured lipid carrier (NLC) co-delivering Gemcitabine (Gem) and Paclitaxel (Taxol) FA-Gem-Taxol-NLC was developed with the aim to overcome the multidrug resistance (MDR) cancer therapy. FA-Gem-Taxol-NLCs were prepared by using emulsion-evaporation method and extensively characterized for particle size, polydispersity index, zeta potential, and % entrapment efficiency which were found to be  $197 \pm 1.8$  nm,  $0.223 \pm 0.05$ ,  $+22.9 \pm 0.2$  mV and  $87.9 \pm 0.3\%$  (Taxol) and  $88.8 \pm 0.4\%$  (Gem) respectively. In vitro drug release study of optimized formulation was carried out using dialysis tube method. FA-Gem-Taxol-NLCs showed 78.8 and 76.8% (cumulative drug release) of Gem and Taxol respectively after 72 h in PBS (pH 7.4)/methanol (7:3), while in the case of FA-conjugated Gem-Taxol-loaded NLCs, cumulative drug release was recorded as 81.2 and 81.7% for Taxol and Gem respectively in 72 h in PBS (pH 4.0)/methanol (7:3). Further, the formulation(s) were evaluated for ex vivo cytotoxicity study. The cytotoxicity assay in human non-small-cell lung cancer cell line A549 revealed lowest GI50 value of FA-Gem-Taxol-NLCs which was  $1.08 \pm 0.013$   $\mu$ g/ml, followed by Gem-Taxol-NLCs and Gem-Taxol solution with GI50 values of  $3.22 \pm 0.022$  and  $3.86 \pm 0.006$   $\mu$ g/ml, respectively. Findings indicated that the folic acid-conjugated Taxol and Gem co-loaded NLCs exhibited lower GI50 values as compared to unconjugated Taxol and Gem co-loaded NLCs; thus, they have relatively potential anticancer efficacy against resistant tumor. The future perspective of this study are focused on the fact that NLCs based combination drug delivery system can be attractive approach for the treatment of cancer by increasing its therapeutics efficiency.

**KEYWORDS:** Nanostructure lipid carrier, Gemcitabine, Paclitaxel, Multidrug resistance cancer

**Paper ID: NT-1202126202**

## **Nanochloroquine augmented drug delivery and overwhelmed drug resistance in Plasmodium falciparum parasites**

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### **ABSTRACT:**

Chloroquine diphosphate (CHQ) is primarily used for the treatment of Plasmodium falciparum malaria at the dose of 500mg orally or 10mg/kg parenterally. However, point mutations in Plasmodium falciparum chloroquine resistance transporter (PfCRT) protein and Plasmodium falciparum multidrug resistance protein 1 (Pfmdr1) localized in digestive vacuole membrane, are responsible for CHQ resistance. Therefore, in present investigation, dextran nanoparticles bearing chloroquine diphosphate (CHQ-DEX-NPs) were formulated by solvent diffusion method of size below 70nm with zeta-potential of  $-20.1 \pm 3.2$  mV. FT-IR, DSC and PXRD techniques confirmed the successful loading of drug in nanomatrix system with amorphous attributes. In vitro drug release analysis indicated the Higuchi pattern with diffusion controlled drug release. The IC<sub>50</sub> of CHQ-DEX-NPs in sensitive (3D7) and resistant (RKL9) Plasmodium falciparum strains was estimated to be 0.031- $\mu$ g/ml and 0.13- $\mu$ g/ml significantly lower than 0.059- $\mu$ g/ml and 0.36- $\mu$ g/ml of CHQ. The augmented therapeutic efficacy of CHQ-DEX-NPs may be credited to deposition of tailored nanoparticles in food vacuoles of malaria parasites owing to the affinity of parasite towards DEX that consequently lower the drug resistance and improved the therapeutic index. In conclusion, CHQ-DEX-NPs must be evaluated under a set of stringent in vivo parameters to establish its therapeutic efficacy in preclinical model.

**KEYWORDS:** chloroquine diphosphate, nanomatrix, dextran.

**Paper ID: NT-120274202**

## **Effect of co delivery of verapamil with paclitaxel and cisplatin solid lipid nanoparticles for treatment of ovarian cancer**

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### **ABSTRACT:**

Paclitaxel and Cisplatin are antineoplastic agent used to treat aggressive forms of ovarian, lung, head, neck, breast carcinoma, acute leukemia and treat testicular cancer. This study was aimed to design and characterize Paclitaxel loaded solid lipid nanoparticles (SLNs) and Cisplatin loaded solid lipid nanoparticles (SLNs) to achieve site specificity, reduce toxicity and sustained release pattern. Paclitaxel loaded SLNs were fabricated by microemulsion followed by probe sonication technique. In this study 32 full factorial design was employed for optimizing the concentration of lipid as Stearic acid and surfactant (soya lecithin) for the nanoparticles. The optimization was done by studying the dependant variable of particle size and % entrapment efficiency. Similarly prepared Cisplatin SLNs. The SLNs of paclitaxel and Cisplatin met all the requirements of a colloidal drug delivery system. In vitro study showed sustained release profile. Therefore, in this study, we have attempted to screen therapeutic output of the strategy of co-administration of Verapamil, as P-gp modulator and anti-cancer agent, with the combination therapy of Paclitaxel SLNs and Cisplatin SLNs against ovarian cancer. It was postulated that P-gp is a family of proteins which alter the cell permeability resulting in the escape of the drugs from the tumors which often led to diminished efficacy of the drugs. Verapamil being inhibitor of P-gp is believed to reverse this effect and increased retention of the drugs at tumor site. The present study was conclusive of this postulation. The tissue distribution of Paclitaxel and Cisplatin was significantly increased by co-administration of Verapamil.

**KEYWORDS:** Paclitaxel, Cisplatin, Solid Lipid nanoparticles, optimization, 32 Full Factorial Design, Particle size, Verapamil.

**Paper ID: NT-1204100204**

## **Reverse Emulsification Method – Better Tool for Preparation of Chitosan-Carrageenan Nanoparticles.**

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### **ABSTRACT:**

Chitosan and carrageenan nanoparticles were prepared by reverse emulsification method, which is based on polyelectrolyte complexation or ionic gelation, cefdinir monohydrate was used as model drug. The incorporation of the three components in the nanoparticle matrix was assessed by analytical techniques FTIR and DSC.

Using chitosan carrageenan nanoparticles as control, the effect of the cross-linker in the particles properties was studied. A decrease in size (from 450–500 nm to 150–300 nm) and in zeta potential (from +75– +85 mV to +50 – +60 mV) were observed. In the study, an increase in production yield (from 15–20% to 25–35%) was observed.

The small size and high stability due to positive surface charge make the developed chitosan and carrageenan nanoparticles potential tools for an application in oral/mucosal delivery of drug molecules.

**KEYWORDS:** Kappa carrageenan, Chitosan, polyelectrolyte, Nanoparticles, Nanogels,

**Paper ID: NT-12818528**

## **Antifungal effects of zinc oxide nanoparticles on *Saccharomyces cerevisiae***

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### **ABSTRACT:**

**Background:** Nanotechnology has emerged as a promising technique for various biomedical applications lately. Zinc oxide nanoparticles (ZnO NPs) are widely used to treat skin conditions due to their antimicrobial properties. The current study was aimed to determine the antifungal properties of ZnO NPs on the skin and on the causative agent of secondary infection found in immunocompromised patient, *Saccharomyces cerevisiae*. This study is done by investigating the growth inhibitory of various concentration of ZnO NPs (5–150 mg/L) on *S. cerevisiae* along with the surface interaction of ZnO NPs on fungal cell wall at 24 h.

**Methods:** The cytotoxic effects were all assessed through percentage reduction in turbidity upon treating with increasing concentrations of ZnO NPs from 5 to 150 µg/mL. The surface interactions of nanoparticles and the following morphological alterations on yeast cells were examined by scanning electron microscopy (SEM). Next, fourier transformed infrared (FTIR) spectrum was employed to analyse the involvement of functional groups in surface binding of ZnO NPs on yeast cells.

**Results:** The treatment of ZnO NPs on *S. cerevisiae* exhibited a typical concentration -dependent cytotoxicity. Results showed a significant ( $p < 0.05$ ) cytotoxicity at 24 h for all tested concentrations of ZnO NPs. The FTIR spectrum confirmed the involvement of phosphate groups mainly from phospholipids and nucleic acids, lipid head group, lipid hydrocarbon tail, amide I and II of *S. cerevisiae* in the surface interaction of ZnO NPs on the *S. cerevisiae*. Finally, The SEM images of ZnO NPs treated *S. cerevisiae* displayed damaged cell membrane, pitting and cell rupture with distorted morphology.

**Discussion.** The results showed that the treatment with increasing ZnO NPs on *S. cerevisiae* showed substantial growth inhibition of yeast cells along with cell membrane damage. Hence, the present study illustrated the antifungal effects of ZnO NPs on *S. cerevisiae*.

**KEYWORDS:** Antifungal effects, Zinc oxide nanoparticles, growth inhibition, *Saccharomyces cerevisiae*

**Paper ID: NT-1332198332**

## **Development of Drug Loaded Lipid Nano-Vesicular Nasal to Brain Delivery System for the Treatment of Alzheimer's Disease**

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### **ABSTRACT:**

**Purpose:** Alzheimer's disease (AD) is the major cause of neurodegenerative dementia globally and has occurrence rates more than 30 % in the persons having age over 80 years. Competent drug treatment strategies are still inadequate and in recent past, more or less all the screened drugs failed to exhibit significant therapeutic effect in clinical trials. A major reason of failure is very low drug availability in the brain due to their limited uptake or passage through BBB. The nasal route appeared as the most promising, suitable and alternative approach for brain drug delivery, that bypasses the BBB and deliver the drug directly to the brain from the nasal cavity. Hence, the present study envisaged to develop lipid nano vesicular drug delivery to the brain through nasal route to increase the bioavailability and half-life of the drug.

**Methods:** Drug loaded Lipid Nano vesicular system (LVS) was prepared using different proportions of surfactant, cholesterol and Stearylamine (SA). The prepared formulations were subjected to various in vitro evaluation tests like determination of particle size, zeta potential, entrapment efficiency, drug polymer compatibility study, drug release study and stability study. The optimized nasal to brain drug delivery system was also subjected to in vivo pharmacokinetic study, brain uptake study, nasal ciliotoxicity study and behavioral study using Morris Water Maze Test (MWMT) to confirm safety, increased brain availability and therapeutic potential of optimized formulation.

**Results:** The particle size of prepared lipid nano vesicular formulations was found in between 178-240 nm. The particles size directly depends on the surfactant and cholesterol concentration. The entrapment efficiency of prepared formulations was found to be 60.24 to 74.93%. In vitro drug release study suggested that all the prepared formulations showed anomalous drug release ( $n = 0.78-0.87$ ) and Highest linearity for Korsmeyer-Peppas model. In vivo pharmacokinetic and brain uptake study in wistar rats also revealed that drug concentration in Brain tissues was found significantly higher for the optimized formulations in comparison to conventional formulation given orally; while it was significantly less for nano vesicular formulation in plasma samples during the experimental period. The AUC of drug in LVS formulation (intra nasal) was half of the conventional drug solution administered orally. The AUC of drug in optimized LVS preparation was found to be seven times higher than its conventional solution administered orally.

Furthermore, in MWMT untreated rats showed a significant increase on escape latency compared to drug loaded LVS group ( $p < 0.01$ ). In addition, rats treated with optimized formulation revealed an improvement on spatial learning memory compared with conventional solution. This indicated that the developed lipid nano vesicular systems constitute a suitable strategy for the delivery of drugs for Alzheimer's disease.

**Conclusion:** The results of in vitro and in vivo study revealed that the optimized formulations were safe and exhibited sustained delivery of the drug into the brain tissue. In conclusion, developed drug loaded lipid nano-vesicular nasal to brain delivery system could be a promising alternative towards a better treatment of Alzheimer's disease.

**KEYWORDS:** Lipid Nano-Vesicular, Nasal to Brain Delivery System, Alzheimer's Disease



Paper ID: NT-1383186383

## **Antibacterial effects of zinc oxide nanoparticles on *Bacillus subtilis***

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### **ABSTRACT:**

Nanotechnology has risen as a promising strategy for different biomedical applications for as far back as couple of decades. Zinc oxide nanoparticles (ZnO NPs) have been used widely in biomedical applications due to their antibacterial and antifungal properties. The present research was aimed to determine the antibacterial properties of ZnO NPs on the skin and wound infection causing Gram-positive bacterium *Bacillus subtilis* through finding the growth inhibitory effects of ZnO NPs on *B. subtilis*. The morphological changes were observed using the scanning electron microscopy (SEM). The growth inhibitory effects of ZnO NPs on *B. subtilis* at 24 h were determined through percentage of inhibition in turbidity upon treating with increasing concentrations of ZnO NPs from 5 to 150 µg/mL. Fourier transform infrared (FTIR) analysis was performed to confirm the functional groups involved in the binding of ZnO NPs on bacterial cell wall. The results showed significant ( $p > 0.05$ ) growth inhibition on *B. subtilis* for all the tested concentrations of ZnO NPs from 5 to 150 µg/mL at 24 h. FTIR spectrum exhibited the involvement of biomolecules from bacterial cell wall in surface binding of ZnO NPs on bacterial cells. The Em images showed substantial cell membrane damage and cell fragmentation. Hence, present study confirmed the antibacterial effects of ZnO NPs on *B. subtilis*. The results of the study concludes that ZnO NPs can be used to treat the skin infections caused by *B. subtilis*.

**KEYWORDS:** Antibacterial activity, Zinc oxide nanoparticles, growth inhibition, *Bacillus subtilis*

**Paper ID: NT-1567157567**

## **Formulation and evaluation of bexarotene based liposomal topical gel**

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### **ABSTRACT:**

Bexarotene is a novel and special synthetic selective retinoid receptor agonist drug. It is accessible for a treatment for CTCL. The aim of the present study is to prepare liposomes of bexarotene. These prepared liposomes were further incorporated into the topical gel. Liposomes were formed in Rota-evaporator by mechanical dispersion method comprising of drug, soya phosphatidylcholine (1-3% w/v) and cholesterol (1 % w/v) in numerous batches with distinctive lipids. The prepared liposomes were evaluated for particle size, transmission electron microscopy (TEM), entrapment efficiency and drug release. The promised LIPO F11 formulation was incorporated in the carbapol gel. The prepared gels were evaluated for appearance, extrudability, viscosity, drug content, homogeneity, grittiness, spreadability and pH. The in vitro release profile was also evaluated for gel. The Carbapol gel (1.5% w/v) shown best results amongst others in terms of stability. The promised gel was non greasy, free from grittiness and homogenous in nature. The prepared gel shown viscosity 4286.9 cps and drug content was found to be more than 93%. The prepared gel was found to be non-irritant and having pH near to 7. In the drug release it was observed the maximum amount of the drug was deposited in the skin. The liposomal gel was found to be a good option for treatment of CTCL over the conventional topical gel in terms of removal of skin patches, minimize the reoccurrence and reduces the progress of disease.

**KEYWORDS:** CTCL, Bexarotene, Liposomes, Hydrogel

**Paper ID: NT-1634136634**

## **Development and characterization of nanocomposite clay-polymer based transdermal gels of aceclofenac**

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### **ABSTRACT:**

Aceclofenac is an NSAID, used to treat pain and inflammation. The oral administration of aceclofenac causes gastrointestinal side effects that could be overcome by administering the drug via transdermal route. We aimed to develop and characterize the nano-composite clay based transdermal gels of aceclofenac. FTIR characterization of drug with nano-composite clays indicated absence of any drug-clays interaction. Clay gels were formulated by using plain Montmorillonite (MMT) and Laponite (LP), also in combination with polymers such as HPMC K15 and Carbopol 940. Among all the MMT formulations, MMT1 (5% concentration of MMT) was optimized and among Laponite formulations LP1 (5% concentration of Laponite) was optimized based on their better drug release in 12 hours. The probable reason is HPMC K15 and Carbopol 940 forms a covalently cross linked gel networks which are irreversible systems. This mechanism is hindering the drug release from the formed clays, whereas in the MMT clays form a reversible system of physically bonded gels which helps to a better drug release property. For the optimized formulations, ex vivo release studies were performed and excellent flux was observed for MMT1 than LP1 formulation. Skin irritancy studies and anti-inflammatory studies were performed for these optimized formulations. Skin irritation studies confirm that there was no sign of erythema or oedema and also suggested the compatibility of gels with skin also no sign of behavioral changes were observed during the gel application and after the gel application. Thus, aceclofenac loaded nanocomposite clay gels were successfully developed and evaluated for anti-inflammatory effect.

**KEYWORDS:** Aceclofenac, nanocomposite clays, transdermal gels, polymer

**Paper ID: NT-16512865**

## **Synthesis and Characterization of silver nanoparticles using aqueous extract of *Barlaria longiflora* leaves and their biological activities**

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### **ABSTRACT:**

Bio-nanotechnology has emerged up as integration between biotechnology and nanotechnology for developing biosynthetic and environmental friendly technology for synthesis of nanomaterials. In the present study, application of aqueous extract from the traditional plant *Barlaria longiflora* L as an efficient bio product form green synthesis of silver nanoparticles (AgNPs). Characterization of synthesized nanoparticles is accomplished through UV spectroscopy, XRD, transmission electron microscopy, and scanning electron microscopy. The functional groups of synthesized nanoparticles were identified by Fourier transform infrared spectroscopy. The bio nanoparticles were showed antibacterial activity against both gram positive and gram negative bacterium, respectively *Escherichia coli* and *Staphylococcus aureus*. Bio nanoparticles were also found to decrease the cell viability of MCF7 cell lines in vitro with IC<sub>50</sub> values of 57.96 µg/ml and act as a controlling agent of human breast cancer. The present results revealed that biologically synthesized AgNPs exhibited multifunctional properties and used against human cancer.

**KEYWORDS:** *Barlaria longiflora*, silver nanoparticles, antibacterial activity, cell lines, human breast cancer.

**Paper ID: NT-172952729**

## **Formulation Development of self-nanoemulsifying drug delivery systems of Rifampicin**

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### **ABSTRACT:**

Rifampicin (RIF) is a broad-spectrum antibiotic used as a first line agent in the treatment of mycobacterial infections belongs to BCS class II (low solubility and high permeability). The lipid-based formulation approaches like self-nanoemulsifying drug delivery systems (SNEDDS) for oral drug delivery systems have several benefits such as enhanced solubility, permeability, reduced pre-systemic metabolism, and increased drug apparent solubility; all these factors will result in enhanced oral bioavailability of drugs with a low water solubility. So the aim of this research work is to enhance the solubility of rifampicin by the approach of self-nanoemulsifying drug delivery systems. Methodology includes pre-formulation studies, formulation development, optimization, and evaluation. Formulation development was done by using ternary phase diagrams and the formulations were optimized by Design-Expert® software version 11 using 3 level full factorial design. Evaluation of the formulations was done using parameters like particle size, polydispersity index, zeta potential, percentage transmittance, self-emulsification and dispersibility, viscosity, drug content, in vitro drug release and thermodynamic stability. Optimized formulation containing 1.5 mL of oil and 3.6 mL of Smix exhibited a particle size of 12.80 nm, PDI of 0.245, and was stable on dilution giving a clear dispersion which dispersed within 1 minute. These SNEDDS achieved around nine fold increment in the solubility and improved dissolution characteristics of rifampicin when compared to pure drug.

**KEYWORDS:** Self-nanoemulsifying drug delivery systems, Solubility enhancement, Rifampicin

**Paper ID: NT-1739118739**

## **Nanoconstructs containing supramolecular complex of carboxymethylepi- $\beta$ -CD – ursolic acid for treatment of Skin Carcinoma**

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### **ABSTRACT:**

Skin carcinoma is reported to have 45% of new cases annually. Although treatment with chemotherapy leads to relief, but contributes to extensive adverse and side effects. Natural terpenoids are gaining more importance due to various advantages over synthetic drugs. Ursolic acid is a natural pentacyclic triterpenoids insoluble in water. Polymeric derivatives of natural cyclodextrins have higher complexing and solubilizing efficiency. Supramolecular inclusion systems of ursolic acid with carboxymethyl epichlorohydrin- $\beta$ -cyclodextrin were prepared by kneading, co-evaporation and freeze-drying method. These inclusion systems were characterized by spectroscopy and chromatographic techniques. The complexes were then encapsulated into nano constructs lipiodal carriers. These were prepared using glyceryl behnate and miglyol as solid and liquid lipid. The main objective of present work was to utilize dual concept of Cyclodextrin complexation and nanotechnology in single delivery system. Complexation led to enhancement of aqueous solubility of ursolic acid. Optimization of nanolipoidal carriers was done by response surface methodology and was evaluated for mean particle size, zeta potential, entrapment efficiency, drug-loading and drug release study. The particle size of optimized NLCs was found to be 97.12 nm with zeta potential of -37.4 mV. In-vitro release studies showed a biphasic behaviour with higuchi's release. Entrapment efficiency and drug loading capacity was found to be 92. 6 and 21% respectively; with spherical shape and non-aggregated particles. The success of this approach contributed towards improvement in delivery of BCS class II drugs there by decreasing the dose and side-effects and increasing the therapeutic activity. Complexation and nanotechnology together in a system led to synergistic effect.

**KEYWORDS:** Polymerized cyclodextrin, nanostructured lipid carriers, topical delivery, optimization.

**Paper ID: NT-1750105750**

## **Development and characterization of Mannosylated Naringenin loaded nanovesicular delivery system for Skin Carcinoma**

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### **ABSTRACT:**

Skin cancer has obtained various characteristics over the past decades. The solar radiation that contains ultraviolet rays is the prime causative factor of causing skin cancer. In this present research work, the thin film hydration method was applied for development of Naringenin loaded vesicles with much enhanced loading properties and improves incorporation of corresponding drugs. At the same time, the Quadratic model that help of the Response Surface Method was applied to observe the effects of some specific parameters maintained in the development of nanovesicles. Here, the sonication time was 15 min and delivery system F6 (with Drug:lipid ratio 1:45) provided optimum drug entrapment ability which is about  $82.09 \pm 0.34$  %. The optimized formulation for average size was almost 112.04 nm with zeta potential averaging -24.4 mV. Naringenin is a dietary flavonoid possessing multidimensional properties that is used in various other diseases including viral infection, bacterial infection, diabetes mellitus, and cancer. All outcomes supports the view that Naringenin loaded nanovesicles has high entrapment and drug loading abilities.

**KEYWORDS:** Naringenin, Nanovesicles, Mannosylated

**Paper ID: NT-178163781**

## **Assessment of therapeutic potential of steroidal nano formulation for effective treatment of psoriasis**

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### **ABSTRACT:**

Psoriasis is an autoimmune, inflammatory skin disorder affecting about 2-5% population worldwide. Fluticasone propionate (FP), is a potent class of steroid, frequently prescribed for the topical therapy of psoriasis. Objective of the present study was to fabricate and assess therapeutic potential of Fluticasone propionate enriched nanogel for effective treatment of psoriasis. In the present study, FP-NLCs were successfully developed, optimized and evaluated. Particle size and zeta potential of nanocarrier was found to be  $123 \pm 82$  nm and zeta potential was found -  $38.6 \pm 38$ . FP-NLCs enriched nanogel and plain FP-gel were further developed which exhibited acceptable pH, viscosity and spreadability required for topical delivery. Prolonged drug release from nanogel was reported. Ex vivo skin retention studies revealed that FP bound inside the NLCs (nanogel formulation) exhibited significantly higher ( $p < 0.05$ ) retention of drugs in deeper layers as compared to free drug (plain FP-gel). Drug penetration to the deeper layer was also verified by CLSM study. No skin irritation was reported using nanogel. FP-NLCs nanogel also presented significantly higher ( $p < 0.05$ ) in vivo efficacy than plain FP-gel formulation in terms of % orthokeratosis and drug activity. In addition nanogel was found stable throughout the phase of stability study. Present findings established enhanced therapeutic potential of developed nanogel for the topical therapy of psoriasis.

**KEYWORDS:** Fluticasone propionate, topical delivery, psoriasis, skin, nanogel



**Paper ID: PC-111611**

## **A smart dual approach for delivery of methotrexate and PABA to colon specificity for treatment of colorectal cancer**

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### **ABSTRACT:**

Colorectal cancer is a major health problem worldwide. It is the second most common in women, 9.4% of all cancer cases) and third most common cancer in men (10.0% of all cancer cases). Colon cancer ranks 8th and rectal cancer ranks 9th among men. As on date the drugs which are used for the management of carcinoma requires major high dose and more number of frequency of administration, uncertainty in reaching to target site preferably to colon region which offers economical burden to patient which may leads to progression of cancerous development state that causes severe complication that may leads to the highly critical untreatable conditions. In current scenario effective therapeutic management of colorectal carcinoma by chemotherapy approach offers a substantial side effects and economic burden to patients along with non compliance due to the uninvited adverse, side effects and withdrawal symptoms to the patient during and after therapeutic management. The main objective of our research work is to prepare Methotrexate azo adduct with PABA for colon targeting. Methotrexate PABA azo adduct was synthesized and the effect of enzyme azo reductase was examined on the release rate of Methotrexate and PABA in the gastrointestinal contents of rats. By using this approach two drugs can be targeted at the same time in the colon so as to treat the colorectal cancer. The azo adduct did not release drug in acidic environment of stomach, but when the azo adduct drugs will enter into colon the enzyme azo reductase break the azo bond and releases the dual drugs. By using these approaches two drugs can be released at same time in colon. The azo adduct was characterized by IR, NMR and mass spectral analysis. It was further subjected for evaluating its colon targeting property by in-vitro method using rat fecal matter. The cytotoxic and acute toxicity studies of the compound were also performed which reveals that the methotrexate PABA azo adduct is safe for use to colon for the treatment of colorectal cancer.

**KEYWORDS:** Carcinoma, Methotrexate, Azoreductase and PABA

**Paper ID: PC-116073160**

## **Synthesis and antibacterial activity of Azetidinone derivatives of 2-(3-oxo-2,3-dihydro-4H-1,4-pyridoxazin-4-yl) acetohydrazide**

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### **ABSTRACT:**

2H-1,4-pyridoxazin-3(4H)-one was synthesized by condensation of 2-amino-3-hydroxy-pyridine with chloroacetylchloride by using standard procedure. Esterification with ethylchloroacetate and further condensation with hydrazine hydrate produced hydrazide of 2H-1,4-pyridoxazin-3(4H)-one. Schiff base derivatives of 2H-1,4-pyridoxazin-3(4H)-one were synthesized by the acid catalyzed condensation 2-(3-oxo-2,3-dihydro-4H-1,4-pyridoxazin-4-yl)acetohydrazide with various aldehyde and ketones derivatives. Further, refluxing with chloroacetyl chloride resulted in Azetidinone derivatives. Synthesized derivatives (5a-5j) were characterized by FT-IR and PMR spectroscopy. The Screening of in vitro antimicrobial activity of the synthesized compounds were carried out by using cup-plate method. 5h and 5j were found to be potent against certain bacterial strains.

**KEYWORDS:** 2H-1,4-pyridoxazin-3(4H)-one, Schiff base, antibacterial

**Paper ID: PC-118086180**

## **Neuroprotective effect of gold containing organic compounds nano formulation against animal models of Alzheimer's disease: an over view**

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### **ABSTRACT:**

Alzheimer's is elderly people associated disease with the changes in amyloid- $\beta$  peptide leads to cognitive impairment and dementia. This ultimately results in difficulty in day to day work and poor quality of life. Dementia is a syndrome characterized by disturbance of multiple brain functions including memory, thinking, calculation, and orientation. Unfortunately, only a few treatments have been proved to be able to reduce AD symptoms, but none of them result able to halt the disease progression. Notably, Ayurveda is the ancient Indian system of medicine such as Charaka-Samhita (approximately 1500BC), Ashtang - Hridaya (approximately 500 AD), various herbal preparations described along with several metallic preparations. Which have been used for the treatment of different body ailments or disease. A very famous preparation commonly known as Swarna Prashana, composed of gold have been described as a potent formula for the improvement of the cognitive impairment. The administration of gold in its metallic form is having very low lipid solubility and may show nephrotoxicity, hepatotoxicity. Hence, researchers developed new organic gold complex namely, auranofin and aurothioglucose, their properties and toxicity profile greatly change. Even though, these drugs are already FDA approved which have been utilized for treatment of arthritis. The aim of this review is to prepare a nano formulation for overcoming not only adverse side effects but also improve their lipophilicity along with bioavailability and further help to study the neuroprotective effect of gold containing organic compounds in Alzheimer disease as nanoparticles have tendency to cross the BBB easily.

**KEYWORDS:** Alzheimer's disease, Amyloid- $\beta$ , Swarna Prashana, Organic gold, Nano formulation

**Paper ID: PC-1282135282**

## **Synthesis, Molecular Docking of Novel Isatin-thiadiazole derivatives as Anticancer Agents**

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### **ABSTRACT:**

Indolin-2-ones (Isatins) are very successful at cancer therapy involving receptor tyrosine kinases as target biomolecules. Sunitinib is the prototype of this molecular scaffold which got US FDA approval. But resistance and high risk of cardiotoxicity is the major concerns for these molecules. It is indeed to discover the novel anticancer molecules targeting single or multiple receptor tyrosine kinases like VEGFR-1 (also known as FLT1), VEGFR-2 (also known as FLK1/KDR), VEGFR3 (also known as FLT4), PDGFR $\alpha$ , PDGFR $\beta$ , c-kit, FLT3, RET, and c-KIT, from the same scaffold i.e. indolin-2-ones.

We have optimized a new synthetic route towards the synthesis of 3-((5-(phenylthio)-1,3,4-thiadiazol-2-yl)imino)indolin-2-one derivatives (IVa-m) through C-S coupling of thiadiazoles with Aromatic moiety, using Bis(triphenylphosphine)palladium(II)dichloride as catalyst. The synthesized molecules are obtained with high yields ( $\geq 86\%$ ) and structurally elucidated by FT-IR, MS,  $^1\text{H}$  NMR,  $^{13}\text{C}$  NMR, CHNS analysis. Human Cancer Cell Lines study was performed through National Cancer Institute (NCI) NIH's, NCI-60 Human Tumor Cell Line Screen Program, USA. Anticancer activity was performed by Sulforhodamine B (SRB) assay. The compounds showed a very promising anticancer activity against leukemia, melanoma, breast cancer, renal cancer, non-small cell line Lung cancer panel cell lines. Molecular docking was studied on the c-KIT receptor (PDB ID: 3G0E) using Glide 5.0, Schrodinger's Maestro 9.0 molecular modelling suite.

**KEYWORDS:** Indolin-2-one, Thiadiazole, Thioetherification, NCI, Anticancer Activity

**Paper ID: PC-1311153311**

## **Development of validated high-performance thin layer chromatography for quantification of rutin in different species of the Asclepiadaceae family**

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### **ABSTRACT:**

The root of *Hemidesmus indicus* commonly known as Indian Sarsaparilla, is used traditionally to treat a wide variety of illnesses including rheumatism, leprosy, impotence, urinary tract and skin infections. The root is also used for anticancer, antioxidant, anti-inflammatory, antipyretic, analgesic, antimicrobial, antidiabetic activity. *Calotropis gigantea* is commonly known as Madar which is used for analgesic activity, antipyretic activity, CNS activity, anti-inflammatory activity, anti-diarrhoeal activity, free radical scavenging activity, antimicrobial activity etc. This study was undertaken to quantify rutin in *Hemidesmus indicus* and *Calotropis gigantea*. Rutin is an important biomarker component present in the Asclepiadaceae family. A specific and rapid high-performance thin layer chromatography method was developed for analysis of rutin. The method involved separation on the silica gel 60 F254 plates using the mobile phase of n-hexane: chloroform: methanol. The method showed good linear relationship in the range 100-500 ng/spot with  $r^2=0.9984$ . The limit of detection and limit of quantification were 24.38 ng/spot and 73.89 ng/spot, respectively. The proposed validated high-performance thin layer chromatography method was found to be an easy to use, accurate and convenient method that could be successfully used for standardization and quality assessment of herbal material as well as formulations containing different species of the Asclepiadaceae family.

**KEYWORDS:** *Hemidesmus indicus*, *Calotropis gigantea*, Rutin, High-performance thin layer chromatography

**Paper ID: PC-1409103409**

## **Chromatographic and Spectroscopic analysis of Crisaborole**

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### **ABSTRACT:**

**Objective:** Novel, simple, rapid and reliable High-Performance Thin-Layer Chromatographic (HPTLC) and UV-spectroscopic area under curve (UV-AUC) methods were developed and validated for the analysis of Crisaborole in bulk and in Pharmaceutical formulation. Crisaborole is used as an anti-inflammatory agent.

**Methodology:** HPTLC separation was performed on aluminium plates precoated with silica gel 60RP-18F-254S as the stationary phase using Toluene: Methanol: formic acid (4.8:0.2:0.1 v/v) as mobile phase and HPTLC Quantitation of Crisaborole was done by UV detection at 251 nm. Quantification was reached by densitometric analysis at 251 nm over the concentration range of 300–1800 ng/band. The HPTLC method resulted into a compact and well resolved band for Crisaborole at retention factor (R<sub>f</sub>) of 0.51 ±0.02. Linear regression analysis data for calibration of HPTLC method constituted a good linear relationship with regression coefficient; r<sup>2</sup>= 0.999. UV-AUC method applied area under curve was integrated in the wavelength range of 243.80-257.20 nm. The drug follows linearity in UV-AUC the concentration range 1-6 µg/mL with correlation coefficient value 0.999.

**Significance:** This study discovered the Novel analytical method on Crisaborole that can be beneficial for treatment of atopic dermatitis.

This study will help the researchers to uncover the critical areas of analytical profile on Crisaborole that many researchers were not able to explore. Thus a new theory on High-Performance Thin-Layer Chromatographic (HPTLC) and UV-spectroscopic area under curve (UV-AUC) methods may be arrived at.

**KEYWORDS:** Crisaborole, HPTLC, UV-spectroscopic area under curve, Development and validation

**Paper ID: PC-147051470**

## **Stability indicating assay method development and validation of simultaneous estimation of chlorzoxazone, diclofenac sodium and paracetamol in bulk drug and tablet by RP-HPLC**

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### **ABSTRACT:**

A simple, accurate, specific and stability-indicating RP-HPLC method was developed for simultaneous determination of chlorzoxazone, diclofenac sodium & paracetamol, using C18 Vydac Monomeric 120A (250 × 4.6 mm, 5μ) at 40°C. The mobile phase contains a mixture of 20mM potassium dihydrogen phosphate buffer (pH 6.2 adjusted with potassium hydroxide) and acetonitrile (30:70 v/v). The flow rate was 1ml/min and detection was carried out at 275 nm using PDA detector. The retention time of paracetamol, chlorzoxazone and diclofenac sodium were 3.28mins, 13.27mins and 15.61mins respectively. The analytical curve was linear over a concentration range of 0.65- 6.5μg/ml for paracetamol, 1-10 μg/ml for chlorzoxazone and 0.1-1 μg/ml for diclofenac sodium. The drugs in bulk and tablet were subjected to acid and alkali hydrolysis, oxidation, thermal and photolytic degradation. This method can be successfully employed for simultaneous quantitative analysis of Chlorzoxazone, Diclofenac sodium and Paracetamol in bulk drug and tablet formulation.

**KEYWORDS:** Chlorzoxazone, Diclofenac Sodium, Paracetamol, Stability indicating method, Stress testing, HPLC

**Paper ID: PC-148847488**

## **A rapid verification method for identification and content of drug in a HMG Co-enzyme A reductase inhibitor using Mid-Infrared Spectroscopy**

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### **ABSTRACT:**

**Objective:** The proposed method consists of both identification and analyzing the drug content in the drug formulation and a solid drug formulation. Infra Red spectroscopy was performed using Diffuse Reflectance System (DRS) technique.

**Method:** Simvastatin was used as the drug formulation for the study using Mid-IR that offered reliable precision and accuracy. The minimum amount of drug content determined was 1 %w/w. The method was validated in accordance to International Conference on Harmonization for linearity accuracy, precision, robustness and selectivity.

**Result:** The linearity of the drug was found in the range 5µg/ml-30 µg/ml that exhibited a good correlation coefficient of 0.9986 for the selected wave number of 1600-1850 cm<sup>-1</sup> denoting the carbonyl peak. The three marketed formulations of Simvastatin were analyzed for the % recovery and recovered drug were found to be in the range of 99.87%-101.39%. The % relative standard deviation for the accuracy, selectivity, precision were found within the acceptable limits (% RSD below 2%)

**Conclusion:** The presented work showed that the Diffuse Reflectance system has enormous areas in the analytical pharmacy for the determination of drug content and also useful for the drug that have solubility issues. Therefore this method can be the method of choice for determination of drug in Simvastatin dosage forms in industries and routine qualitative and quantitative analysis.

**KEYWORDS:** Diffuse reflectance spectroscopic measurements, Drug identification; Fourier transform infrared spectroscopy, Mid-IR Qualitative Analysis, HMG Co enzyme A reductase inhibitor.



**Paper ID: PC-1649164**

## **UV Spectrophotometric and HPTLC estimation of Drug Zuclopenthixol in Tablet Dosage Form**

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### **ABSTRACT:**

The objective of present work is planned to develop simple, precise, accurate and reliable method for recently introduced drugs using most valuable techniques such as UV Spectrophotometry and High Performance Thin Layer Chromatography (HPTLC). Shimadzu 1700 UV/Vis spectrophotometer and CAMAG HPTLC system with twin trough glass chambers (10 cm × 10 cm and 20 cm × 20 cm) with stainless steel lids were used for the experimental work. The chemicals used were of analytical grade. Validated UV Spectrophotometric and HPTLC methods used for analysis of standard and marketed formulation of drug Zuclopenthixol. For specific stability the forced degradation study was performed on marketed formulation using alkali, acid, oxide and heat conditions. The absorption maximum of the drug was found to be 230.0 nm in methanol. For HPTLC mobile phase is a mixture of chloroform : methanol :: 65 : 35 (v/v). In statistical data correlation coefficient is 0.9980, standard deviation is 0.5858, LOD is 0.04 and LOQ is 0.14. The values of %RSD was found to be less than 2. The results obtained by proposed methods were found to be well agreement with that of previously reported methods. Moreover reproducibility of the results with proposed method seems to be preferred to that of reported methods.

**KEYWORDS:** UV Spectrophotometry, High Performance Thin Layer Chromatography, Zuclopenthixol and Standard deviation.

**Paper ID: PC-1748106748**

## **A review on Herbal Drug Standardization**

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### **ABSTRACT:**

Herbal drugs are phytomedicines or phytopharmaceuticals sold as over the counter products in modern era in the dosage forms such as tablets, capsules and solution form. Standardization refers to confirmation of drug's identity and determination of its quality and purity, detection and adulterants. Various common standardization parameters are, physical, chemical, morphological, microscopical and biological observation. Around eighty percentage of world population depends upon herbal medicines and products for vitality, rehabilitation and good health. Standardization is done to ensure the safety and efficacy of herbal product with reference to standard guideline.

**KEYWORDS:** Herbal drugs, standardization, Quality control

**Paper ID: PC-18628**

## **Synthesis and Anti-Oxidant Activities of Novel Triazole Substituted Phenothiazine Derivatives**

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### **ABSTRACT:**

In this study a series of triazole substituted phenothiazine derivatives will be synthesized and evaluated for their antioxidant activity by DPPH and H<sub>2</sub>O<sub>2</sub> method. The synthesized compound will be tested for purity which will be confirmed by, Melting point, IR, H-NMR spectra, CHN analysis among this Compounds showed significant antioxidant activity comparing with control drug Ascorbic acid. These works are useful in the future.

**KEYWORDS:** Antioxidant activity, DPPH Method, Phenothiazine, Triazole

**Paper ID: PC-195595955**

## **Simultaneous Estimation of Methotrexate and Curcumin in Bulk Drug and Tablet Formulation by using UV-Visible Spectroscopy**

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### **ABSTRACT:**

A simple, accurate, specific and precise UV spectrophotometric method for simultaneous estimation of methotrexate and curcumin in bulk drugs and tablet dosage form has been developed. This method was based on determination of Q – absorption value. Absorbance was measured at 274 nm (Isoabsorptive point) using 0.1 M sodium hydroxide as a solvent. Beer's range were 1-10 $\mu$ g/ml for methotrexate and curcumin respectively. The method was validated using parameters such as linearity, precise, accuracy, limit of detection (LOD) and limit of quantitative (LOQ) according to ICH guidelines. The recovery studies gave satisfactory result indicating that none of the additives and excipients interfere in the assay method. The proposed methods can be used successfully in the quality control of bulk forms, pharmaceutical formulation and routine laboratory analysis.

**KEYWORDS:** Methotrexate, Curcumin, Q-absorption method, Validation.

**Paper ID: PC-1992104992**

## **Validation parameters in RP-HPLC and their pharmaceutical significance**

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### **ABSTRACT:**

Analytic method development and validation are key elements of any pharmaceutical method development program. HPLC analysis method is developed to identify, quantify or purifying compounds of interest. A validated analytical method ensures that it provides consistent, reliable and accurate data. The HPLC method is able to separate, detect and quantify the various drug and its related degradants and also detect the impurities. This method ensure the quality of the product. Analytical validation method is essential but time consuming. All the parameters described by the ICH guideline Q2 guidelines such as accuracy, precision, specificity and limit of detection, limit of quantitation, linearity, range and robustness are widely used to verify safety and efficacy of pharmaceutical formulation.

**KEYWORDS:** Validation, accuracy, LOD, ICH

**Paper ID: SEH-1224156224**

## **Choice of preference over government or private healthcare service among Malaysian medical students**

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### **ABSTRACT:**

Both public and private sectors are important players in Malaysia's healthcare delivery system. The public sector is greatly subsidized and able to cover a wider range of functions. Comparably, the private sector offers mainly curative and rehabilitative services and is financed strictly on a non-subsidized, fee for service basis. This study aims to determine the health-seeking behaviour of medical students and the key factors which involves in the decision-making process. Cross sectional study is conducted in one of the private universities of Malaysia by using structured questionnaire and respondents are selected by random sampling. Out of 200 respondents, majority (71%) opt for private hospital compared to (29%) for government hospital. Majority of the respondents believed that accessibility to healthcare service, efficiency of healthcare providers, and cost of treatment were influencing factors for their choices. The shorter waiting time, cleaner environment are the favourable factors for the private hospitals although respondents aware about high cost of treatment in the private sector. In this study, availability of modern equipment, specialist services, doctor's reputation, insurance facility, good location, easy transport and communication play major roles on overall hospital selection.

**KEYWORDS:** government, private, healthcare, medical students.

**Paper ID: SEH-147235472**

## **Working Women and Health: A case study of the Nurses of Dr.Bhimrao Ambedkar Hospital of Raipur City**

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### **ABSTRACT:**

#### **Objectives of the study:**

1. To study the socio-economic background of the working women.
2. To study the Impact of night duty on health of nurses of Raipur city.

#### **Hypothesis:**

1. There is a significant co-relation between night shift duty and health problem of nurses.

**Research Design:** Exploratory cum descriptive research design.

**Study area:** The Raipur city which is the capital of Chhattisgarh state has been selected as study area.

**The Sample:** For this study 136 Nurses of Dr. Bhim Rao Ambedkar Hospital of Raipur City were purposively selected as respondent.

**Tools of data collection:** For the collection of primary data interview- schedule adopted as a tool and group discussion, observation technique has been also adopted for the collection of data.

#### **Conclusion:**

It is tried to clarify through the study, what is the volume of health problems among nurses during the night duty. Findings of the study show that Nurses are facing more problem .It is clear from analysis of the data that Nurses are facing more problem related to health due to night shift services specially they were faced the physical problem, weakness in hole body, anaemia, B.P. , gastric problem and problem related to maintaining food habit.

**KEYWORDS:** Health, women, socioeconomic

**Paper ID: SEH-149957499**

## **Research Productivity of Role of libraries in Pharmacy Education: A Bibliometric Analysis**

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**ABSTRACT:** In pharmacy education, library use do appear self-regulating assistance to attractive outcomes of the society. Librarians' role is also imperative to make students information literate related to pharmaceutical sciences. This objective of this study to know about the role of libraries and library professional's experience in pharmacy colleges. The trend pharmacy publication such as the journals year and volume-wise distribution of articles, page length of the contributions, year wise references, country-wise distribution of articles, authorship patterns of research contributions, single author and multi authors of contributions and degree of collaboration have been studied. For the analysis of the study journal of controlled release journal 10 volumes containing 40 issues have been taken up. It is found that 388 papers were published during the period of study. The maximum number of articles (47) was published in 2012. The average degree of collaboration is 0.603. Pharmacy colleges have numerous seminar materials, sufficient journals, articles and conference papers. Almost all the pharmacy college libraries perform the data entry, circulation services. Some colleges maintain reports and database services (73.5%). Digital library initiative started in many colleges (75.2%). Very few colleges do have connecting networks like UGC Infilbnet (1.7%). Pharmacy colleges of this study have enough conventional collections, but latest modern technology like connecting network, security measures are to be developed. Since pharmacy graduates get involved in clinical aspects, drug information resources, learning tools and materials and databases for clinical aspects are also required in library.

**KEYWORDS:** Collections and facilities in library, Drug information source, Pharmacy education, Role of Library



**Paper ID: SEH-167158671**

## **A Critical Study of Crimes: Decriminalization of Narcotics Practice**

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### **ABSTRACT:**

This paper is based on secondary sources of research. The term decriminalization of Narcotics means to bring the drug problem out of the scope of criminal law and the purpose of introducing it is to reduced control and penalties compared to the existing law as well the illegal distributions and productions of drugs. Though, the major steps is to prevention and bring changes in society by providing clean environment as well awareness to addicted people related to the harmful use of drugs to make them understand the importance of life how it is fragile and to live it like it's our last day. One principal role of decriminalization of Narcotic has been to provide specialized and preventive treatment services to drug addicts.

Narcotics have divided into two parts according to their effects in the human body which change the way of body works i.e.-

- (1) A 'soft drug' is less addictive and considered less harmful to the body and to society as a whole.
- (2) A 'hard' drug is harshly addictive and considered much more harmful to the body and society in general.

There are some other narcotic drugs i.e. - 'Psychoactive drugs' are drugs that change your feelings, your perceptions and/or your behavior. Psychoactive drugs bring about a chemical reaction in the brain causing feelings, thoughts and behaviour to be affected. A 'legal drug' is a drug that can be obtained either by prescription or over the counter and used in the prescribed and appropriate. An 'illegal drug' is a drug that is not approved by law for use in this country.

There are certain countries determined following approaches toward decriminalization of narcotics were identified-

1. Production, marketing and consumption of marijuana is legalized and regulated (Uruguay)
2. Drugs are prohibited but the sale and use of soft drugs is tolerated and regulated (Netherlands)
3. The personal possession and use of small number of drugs is not penalized while other drug- related activities are prohibited (Costa republic, Mexico, Portugal) and
4. Treatment and alternative punishment for minor drug offenses are allowed (Argentina, Australia, Brazil, New Zealand, and Norway).

Suggestions are as under:

1. It should be control over the neglected areas where farmers are engaged in illegal production of poppy plants with wheat due to lack of knowledge of harmful drugs.
2. It should be restricted the illegal distribution of drugs in hospitals and medicos for extra incomes without any proper prescriptions.

**KEYWORDS:** Criminal, Narcotic, acts

**Paper ID: SEH-179233792**

## **Impact of health in Economic Development of Chhattisgarh State**

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### **ABSTRACT:**

In the 21st century, world is heading towards development in different dimensions, especially in the field of Science and technology. In the run of development, standard of living also changes round the globe. On one hand human beings enjoy these developments, at the same time what actually they pay for it, is their health. Now a days health is going to be a serious issue all over the globe to worry. Basically, it effects under developed and developing countries a lot. Recently many researches show that technological development and globalization also shares ample of health problems to its citizens. Some are incurable and new kinds of diseases came to light which effect the maximum population. These health problems have a great impact on the individuals' economic condition which ultimately effect the nation's development. The present research paper is factually a discussion paper, based on secondary data from national and state resources which discusses on the health issue and their impact on economic development of Chhattisgarh state. Chhattisgarh is a state with dense forest cover and many of these areas are conflict-affected, underserved areas are more where doctors are not available to work and lack of adequacy in other staff also. Government has been taking all possible steps to eradicate the problem by implementing health programs & planning. It is an attempt to know the impact of health on economic development, discussion of the problem and its solution as well. This paper analyses current health problems affecting economic development of state and its consequences on future which is going to take the shape of a burning issue in the coming future.

**KEYWORDS:** Health, Economic development, Chhattisgarh state

**Paper ID: AHS 1213194213**

## **A Survey on Regional Lower Limb Musculoskeletal Disorders among Female Odissi Dance Students in Kuala Lumpur, Malaysia**

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### **ABSTRACT:**

**Purpose:** The purpose of this study is to determine the regional lower limb musculoskeletal disorders among female Odissi dance students.

**Methods:** Self-administered Questionnaire was distributed among the dance students. The data were extracted and tabulated using the IBM SPSS version 21.0 for statistical analysis.

**Results:** The data reported regional musculoskeletal disorders in groin with 4.8 %, knee 60.0 %, leg 13.3%, ankle 18.1 %, foot 47.5 %. Leg and groin had the least number of injury occurrence and knee showed to be the highest. Hip and thigh regions showed no reports of injury.

**Conclusion:** The study concludes that knee injury was reported as the commonest region of injury followed by the foot and ankle region. The percentage rate showed knee region had 60 percentage of reported injuries. This could be due to the repetitive stomping and jumps performed in Odissi dance that lead to biomechanical imbalances of the knees to cause musculoskeletal disorders.

**KEYWORDS:** Knee injuries; Lower limb injuries; Musculoskeletal Disorders; Odissi dance

## Health Promoting Activities of Novel Silver Nanoparticles Synthesized Using *Momordica charantia* And *Psophocarpus tetragonolobus*

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### ABSTRACT:

Novel silver nanoparticles (AgNP) were synthesized using *Momordica charantia* and *Psophocarpus tetragonolobus* and characterized by UV-Visible spectrometer, SEM, FTIR and XRD to confirm the formation of silver nanoparticles. The green synthesized silver nanoparticles were appraised for antioxidant content and tested for free radical scavenging potential, antimicrobial, and anti fungal activities. *Psophocarpus tetragonolobus* possessed the highest total phenolic and flavonoid content (2147.69±9.40 and 1136.90±11.90 mg GAE/g) respectively. *Psophocarpus tetragonolobus* extract showed the lowest EC50 in ABTS, DPPH, Nitric oxide, and Iron chelating activities (353.46±2.04, 2508.63±18.24, 82.68±0.87, and 60.7±0.33) respectively while *Momordica charantia* exhibited highest EC50 values for ABTS, DPPH, Nitric oxide, and Iron chelating activities (2210.72±41.53, 9149.03±110.23, 188.21±1.74, and 6122.65±25.09). For antibacterial activity, AgNP synthesized using *Psophocarpus tetragonolobus* inhibited *Bacillus subtilis* and *Pseudomonas aeruginosa* while *Momordica charantia* mediated Ag NP did not show any inhibition. *Momordica charantia* mediated AgNP showed highest effect with the zone of inhibition of 12±0.58 mm against *Escherichia coli*. For antifungal activity, *Psophocarpus tetragonolobus* nanoparticles were effective in inhibiting the growth of *Aspergillus niger* with the zone of inhibition at 23±2.52 mm. For *Saccharomyces cerevisiae*, *Momordica charantia* nanoparticles showed highest effect with the zone of inhibition of 17±1.53 mm. In conclusion, the silver nanoparticles synthesized using these two vegetables possess superior health promoting activities and further investigations are required to confirm their health benefits.

**KEYWORDS:** Silver nanoparticles, *Momordica charantia*, *Psophocarpus tetragonolobus*, antioxidant, antimicrobial

## **Upper Body Posture Abnormalities between the Piano Players and Non-Piano Players**

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### **ABSTRACT:**

**Background:** Playing-related Musculoskeletal Disorders (PRMDS) are a common problem amongst piano players. There are several factors that lead to this phenomena, the poor upper body posture analysis is associated with PRMDS. Generally, the poor upper body posture is commonly on the neck and shoulders that including the forward head posture (FHP) and rounded shoulder posture (RSP) that may lead to the pain sensation and might affect the ability to play the piano. The neck disability index (NDI) is to assess the functional disability of neck pain during daily living. Playing the piano has a similar ergonomic posture by using the computer.

**Aims:** The purpose of the study is to compare upper body posture abnormalities among the piano and the non-piano players.

**Methods:** A causal comparative study to investigate the differences between piano (n=35) and non-piano players (n=35) group. Photogrammetry method was used to assess the Craniovertebral angle (CVA) on the FHP, and the digital Vernier Calliper is used to assess the scapular index on the RSP. In addition, Neck disability indices (NDI) used to measure neck pain and functional disability.

**Results:** The findings show Piano players have a higher NDI, lower CVA and RSP when compared with the non-piano players at a statistically significant level of p-value (<0.05).

**Conclusion:** Based on obtained results, this study concludes piano players are highly prone to the risk of developing postural changes in the upper body compared with the Non-piano players.

**KEYWORDS:** Piano Players; Non-piano Players; Forward Head Posture; Rounded Shoulder Posture; Neck Disability Index

## **TEAM BASED LEARNING IN MEDICAL EDUCATION**

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### **ABSTRACT:**

Team based learning (TBL) is an active learning instructional strategy, that can be used in medical education at all levels of training, which follows a carefully constructed sequence of steps that amplify the learning process. Excerpts have been selected from research studies to show that TBL is associated with positive learning outcomes. TBL helps students to perform better than they would in a more traditional lecture-format. In addition to academic outcomes, TBL enhances the development of professional competencies, team work, giving constructive feedback, and the skill set for deliberate practice that grows into an enduring life-long learning process. Medical educators should carry out TBL through a scholarly approach to measure the outcomes, reflect on the results, plan for future iterations and share with the community at large.

**Key words:** Team based learning, medical education, positive learning outcomes, skill set

## FORMULATION AND EVALUATION OF *MIMUSOPS ELENGI* HERBAL MOUTHWASH

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### ABSTRACT:

Nowadays, Oral health is having particular attention in worldwide. For therapeutic and cosmetic purpose, variety of mouthwashes available in the market. Many are chemical mixtures, very few may have organic label. People nowadays prefer organic mouthwash and mouthwash based on herbs more than the chemical ones. There is less herbal and organic mouthwash in the market. Therefore, the aim of this research is to formulate a suitable herbal mouthwash formulation that is based on plants as an active ingredient rather than a chemical one and should also suit the consumers need to maintain a good oral health. The main active ingredient chosen was *Mimusops Elengi*. *Mimusops Elengi* has proven its ability to kill microorganism which can helps in maintaining good oral health. Three extracts were made from *Mimusops Elengi* which is aqueous, ethanolic and methanolic extract and mouthwash were formulated based on the extracts. Different concentration 3ml, 5ml and 7ml of the each extracts were added into the mouthwash and a total of nine products were formulated and evaluation tests were done to test the function. While among all those herbal mouthwashes products, the one made from 5ml of aqueous extract are having better properties whether in efficiency or stability when compared to the ethanolic and methanolic ones. The mouthwashes were also tested for its efficiency and stability. After comparison with the branded mouthwash, the branded mouthwashes showed better in appearance and palatability; therefore, colouring and sweetener were suggested to be added in the formulation.

**Key words:** Oral health, Mouthwash, *Mimusops Elengi* linn,

## PHYTOCHEMICAL SCREENING, TOTAL FLAVONOID AND PHENOLIC CONTENT ASSAYS OF VARIOUS SOLVENT EXTRACTS OF *MUSA SAPIENTUM*.

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### ABSTRACT:

Flavonoids represent the most common and widely distributed group of plant phenolics and are abundant in foods; quercetin and rutin are the flavonoids most abundantly consumed. *Musa sapientum* is one of the well-known plants of the Musaceae family that have been used in traditional medicine since hundred years to alleviate various diseases and health problems. The objective of this research is to conduct the preliminary phytochemical screening, total flavonoid and phenolic contents assays of various solvent extracts of tepal of *Musa sapientum*. Phytochemical screening was carried out according to the method of Trease and Evans, total flavonoid content was measured by the aluminium chloride colorimetric assay and total phenolic content was estimated spectrophotometrically by Folin-Ciocalteu method. Preliminary phytochemical screening reveals the presence of phenolics, flavonoids, alkaloids, tannins, terpenoids in all the three different extracts (methanolic, ethanolic and aqueous). Polar solvents are frequently used for recovering polyphenols from plant matrices. The most suitable solvents are aqueous mixtures containing ethanol, methanol, acetone, and ethyl acetate. Tepal methanolic extract has the richest content of both phenolics and flavonoids i.e. (5.17 mg GAE/g and 0.36 mg QE/g) respectively, and aqueous extract was the least i.e. (2.02 mg GAE/g and 0.214 mg QE/g). All the extracts were not significantly different with one another ( $p > 0.05$ ). It can be hypothesised that the high contents of phenolic compounds of tepals of *Musa sapientum* indicated that these compounds contribute to the antioxidant activity and can be regarded as promising plant species for natural sources of radical scavenging activity with potential value for treatment of many life threatening diseases. The process of extraction and identification of active principles responsible for the free radical scavenging property of tepal extract of *Musa sapientum* through bioactivity guided fraction is under progress in order to understand the possible mechanism of action. Utilization of this tepal will be of advantage to mankind and increased in its consumption will help in prevention of chronic life style diseases.

**Keywords:** *Musa sapientum*, Phenolics, Flavonoids, Alkaloids, Tannins, Terpenoids.





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