2nd International Conference on Development & Modern Trends in Traditional Formulations

January 8th & 9th, 2021

Organized by

SMBT Institute of Diploma Pharmacy

SMBT Educational Campus,

Nandihills, Dhamangaon; Tal. Igatpuri, Dist.

Nashik, Maharashtra-422403; INDIA

ICTM 2021

SCIENTIFIC

PROCEEDINGS

Contents

Welcome Message

Dear all Delegates and Participants

SMBT is pleased to welcome all the participants from different states and various countres to attend 2nd t International conference on 'Development & Modern Trends in Herbal Formulations' during January 8th and 9th, 2021 at Nashik, India. The theme of the conference is "Exploring quality assurance and phytochemical research in traditional medicine which practiced for treatment and healing" This ICTM 2021 deals with the current research developments in the field of Traditional Medicine and also about the new treatment methods which are devised by scientists to treat various diseases in an easier way. These formal get together acts as a best platform for participants to learn about the recent trends in quality assurance and phytochemical research and development in traditional medicines.

The ICTM 2021 is focuses on recent research an development on Traditional Medicine and clinical study of herbal medicines. The session are emphasized on

1. Traditional medicines- sources & clinical application
2. Quality assurance 0f Traditional Medicine
3. Phytochemistry – isolation and use of active principles.
4. Trade of natural products and Traditional Medicine
5. Biological screening of natural medicines.
6. Herbal Formulations

Eight lectures will be presented by distinguished scientists. The researchers will be able to report their research finding in --- paper presentations and --- poster presentations. ----poster presentation awards and -- paper presentation awards will be presented each to -- academician/ research scholar and -- students.

We would like to thank to the SMBT management for their help and encouragement during the preparatory stage of the conference. Our grateful thank for the scientific committee for processing abstracts and proceedings book in time. Our special thank for the organizing committee who have done their most to offer a successful and satisfying conference.

We wish you all a fruitful conference which strengthen friendship and traditional medicine. We hope everyone enjoy their stay in Nashik and take home new scientific knowledge and inspiration.

…SMBT Educational Trust

Dr. Yogesh V. Ushir
Programme chair,
Principal, SMBT Institute of D. Pharmacy

Organizing Committee Members

Mr. K.A. Suryavanshi

Mr. K. J. Tiwari

Mr S.R.Kochar

Ms. B.D. Tambe

Ms. S.T. Garud

ICTM 2021 Conference

Scientific Program Schedule

08th January 2021 **Venue- Zoom Meeting app**

Sr.No.	Time	Activity	Topic
1	**09.00am To 09.30am**	Inaugural Function	-----
2	**09.30 to 10.30am**	**Assoc. Prof. Hazrina Binti Ab. Hadi** Dept of Pharmaceutical Technology, International Islamic University, Malaysia	Ancestral wound healing treatment in modern application
3	**11.00pm to 12.00pm**	**Dr. Fredrick Nwude Eze** Faculty of Pharmaceutical Sciences, Prince of Songkla University, Thailand	To isolate or not to isolate: The increasing relevance of bioactive enriched natural extracts
4	**12.30pm to 01.30pm**	**Assist. Prof. Slamet Widodo** Department of Health, Malahayati University, Indonesia	To analysis of risk factors for obesity in the academic community of university of Malahayati in 2020
5	**02.00pm to 04.30pm**	**e-Poster/ e-Oral Presentations**	**----**

ICTM 2021 Conference

Scientific Program Schedule

09th January 2021 **Venue- Zoom Meeting app**

Sr.No.	Time	Activity	Topic
1	**9.00am To 10.00am**	**Assoc. Prof. Farahidah Binti Mohamed** Faculty of pharmacy, International Islamic University, Malaysia	Hepatoprotective effect of Paracetamol-Honey suspension
2	**10.30am to 11.30am**	**Dr. Rajendra Gyawali** Jeju National University,South Korea (PDF) Kathmandu University, Dept of Pharmacy, (Assoc. Prof.)Nepal	Plant based traditional medicines of Nepalese Himalaya: Ethnopharmacology and formulation
3	**12noon to 1.00pm**	**Assist. Prof. Sherif Babatunde Adeyemi,** University of Ilorin, Ilorin, Nigeria	Herbal Medicine for Diabetes Mellitus Treatment: Status and Prospects
4	**2.pm to 4.30pm**	**e-Poster/ e-Oral Presentations**	-----
5	**4.30pm to 5.00pm**	**Valedictory**	

Table of Paper Presentation

Friday 8th January, 2021

Time: -

Academician/ Reaserch Scholars Category

Code	Time	Title
AP-01	3.30pm to 3.37pm	Pharmacognostic Investigation of *Tectona grandis* Linn. Bark- **Ms Sunita Ahire**
AP-02	3.40pm to 3.47pm	HPTLC Analysis and Force Degradation Study of Tapentadol Hydrochloride in Bulk and Its Pharmaceutical Formulation - **Mrs Asmita Sakore**
AP-03	3.50pm to 3.57pm	Formulation of PPAR-gamma agonist as surface modified PLGA nanoparticles for non-invasive treatment of diabetic retinopathy: in vitro and in vivo evidences- **Mr Umesh Laddha**

AP:- Academician/Research Scholar Paper

Code	Time	Title
APO-01	4.00pm to 4.07pm	Review Of Various Dosage Forms And Drug Development In Traditional Ayurvedic Medicine- **Mr Ankush Gunjal**
APO-02	4.10pm to 4.17pm	Evaluation of Wound healing Potential of Dendrocalamus Strictus Leaf Extracts on Animal Model- **Ms Dipali Shelke**
APO-03	4.20pm to 4.27pm	Assessment of Memory Enhancing Potential of *Dendrocalamus strictus* Leaf Extracts - **Mr Akshay Daswad**
APO-04	4.30pm to 4.37pm	Stability Indicating Bioanalytical Rp-Hplc Method Development And Validation For Estimation Of Carvedilol-**Mr**. **Agasti L. Ware**

AP:- Academician/Research Scholar Poster

Students Category

Code	Time	Topic
SO-01	3.30pm to 3.37pm	Determination of Quercetin in Green Tea (*Camellia sinensis*) for Phyto-Therapeutic Applications- **Mr Saurabh Sonar**
SO-02	3.40pm to 3.47pm	Genotoxicity of Drugs: Mechanisms, Testing Guidelines and Methods for Evaluation- **Ms Leena Shinde**
SO-03	3.50pm to 3.57pm	Development, Optimization And Evaluation Of Lipospheres Of Celecoxib- **Ms Snehal Tidke**
SO-04	4.00pm to 4.07pm	Formulation of Epalrestat Microsphere as modified release drug delivery system for management of Diabetic Mellitus- **Ms Vaibhavi Manore**
SO-05	4.10pm to 4.17pm	Development Of Multi-Unit Alginate System: Effect Of Additives On Indomethacin Release-**Ms Mayuri Salade**
SO-06	4.20pm to 4.27pm	Formulation and evaluation of buccal patches of Venlafaxine hydrochloride- **Ms Ashwini Dokhale**
SO-07	4.30pm to 4.37pm	Stability-indicating HPLC method for estimation of mebeverine HCl: characterization of its major degradation product and assessment of its in-silico profiling to ascertain pharmacokinetic, therapeutic and toxicological properties- **Ms Sonam Mali**

SP:- Students Paper

Code	Time	Title
SPO-01	3.30pm to 3.37pm	Traditional medicines sources and clinical applications (Cinchona)- **Mr Rehan Maniyar**
SPO-02	3.40pm to 3.47pm	Transdermal drug delivery by ethosomes- **Ms Muskan Maniyar**
SPO-03	3.50pm to 3.57pm	Natural Products As A Source Of Eco-friendly Immunity Boosting Compounds- **Ms Komal Zankar**
SPO-04	4.00pm to 4.07pm	Medicinal Plant Used In the Treatment of AIDS- **Mr Bhaiyyasaheb Wadate**
SPO-05	4.10pm to 4.17pm	Pharmacological Review On *Ficus Glomerata*- **Ms Shubhangi Kamble**
SPO-06	4.20pm to 4.27pm	Pharmacogonostical study Of *Benincasa Hispid*a Plant – Review **Ms Chaitali Wani**
SPO-07	4.30pm to 4.37pm	*Martynia annua*: a Review- **Ms Ashwini Bankar**

SPO- Student Poster

Table of Paper Presentation

Saturday 9th January, 2021

Academician/ Reaserch Scholars Category

Code	Time	Title
AP-04	2.00pm to 2.07pm	Synthesis and evaluation of 4-((5-(substituted benzylideneamino)-1,3,4-thiadiazol-2-yl)methyl)-7-methyl-2H-chromen-2-one as anti-tubercular agent- **Ms Monika Kakadiya**
AP-05	2.10pm to 2.17pm	Marma Therapy in the Management of chronic pain- **Ms Shilpa Badhe**
AP-06	2.20pm to 2.27pm	Development of Nanostructured lipid carriers loaded with Corosolic acid: An efficient carrier for Antidiabetic Effects- **Ms Swati Raysing**

AP:- Academician/Research Scholar Paper

ICTM 2021

Speakers Abstracts

Plant based traditional medicines of Nepalese Himalaya: Ethnopharmacology and formulation

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ABSTRACT

Nepalese Himalaya has a rich tradition of plant-based knowledge on healthcare management. Traditional botanical medicine is the primary mode of healthcare for most of the population of this district and traditional practitioners.A large number of plants, plant extracts, pastes and plant powders are used by tribals and folklore traditions in Nepal for treatment of several type of diseases. Bioassay analysis of very few plant species have been conducted to investigate and validate their medicinal properties, and to ascertain safety and efficacy of traditional remedies of Nepal. The present paper thus attempts to collect our research activities based on the ethnobotanical knowledge for treatment by tribals and folklore practices prevailing in Nepal and their scientific validation. Biological activities of the several medicinal plants has been carried out and developed into different doses forms such as tablet, capsule, ointment, cream, gel, microsphere, transdermal patches etc by taking knowledge of long history of herbal usage for the clinical management of a variety of diseases in indigenous cultures on Nepal. The major pharmacological strategies such as phytochemical and antimicrobial screenings, antioxidant, wound healing, analgesic, antidiabetic, anti-inflammatory etcproperties of plants have been carried out in the discovery of herbal formulation of potential clinical value. Synergy assessment of essential oil with allopathic drug was also carried out to overcome the resistance of different pathogens to modern antibiotics. Several of the medicinal plants showed the positive results on pharmacological activities according to traditional practice. Mango and orange

peelshowed remarkable results in cancer cells, which could be a very potential anticancer agent against human cervical carcinoma and gastric carcinoma and cervical carcinoma both respectively. *Diploknemabutyracea* seed oil and its formulated 5% ointment showed significant effect as analgesic, anti-inflammatory and wound healing agents.*Psidium guajava*leaf extract can be considered for transdermal patch containing HPMC & PVA as polymers & PG as permeation enhancer for better release of the drug over a period of 12hrs for the management of diabetes.Similarly, extract of *Smallanthussonchifolius, Utricadioica* showed satisfactory result as antidiabeticproperty in Streptozotocin induced diabetic mice. Formulation of herbs found strong antioxidant proprty in the mixture form due to synergestic effect instead of individual. Similarly, ointmentprepared by fusion method from *Gaultheria fragantissima*oilshowed analgesic effect, spread ability, stability tests but negative result forirritancy test. Plantsscreened for high tannin and phenolic contents with significant antioxidant property were formulated into wound healing ointment. 10%w/w of *Bauhinia variagata, Rhododendron arboretum,Myricaesculenta*ointment found to be more effective in healing wound than 1%w/w Framycetin cream.Conclusively, the selected traditional ethnobotanical herbs of Nepal had shown the anticancer, wound healing, analgesic, anti-inflammatory, anxiolytic, actimicrobialactivities etc using their extracts as well as herbal formulations.

Key words: Himilayan plants, Ethnobotany, Bioactivity, Formulation, Drug development.

Factors Associated With Obesity In Academic Community Of the University Of Malahayati : A Case Control Study

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Abstract

The Analysis of Risk Factors for Obesity in the Academic Community of University of Malahayati in 2020

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ABSTRACT

The increasing of obesity prevalence in the age of 18 and above had increased significantly from year to year. This condition was a special challenge for public health workers, especially for the health promote to see the impacts on health problems caused by obesity deeply. The incidence of obesity was often associated with several risk factors associated with causes of the incidence of obesity. Some risk factors identified to have relationship with the incidence of obesity were the factors of vitamin D levels in blood, gender, heredity, socioe-conomic factors, exercise, food habit and sleep duration factor. This study aimed to determine the relationship between risk factors towards the incidence of obesity in the academic community of University of Malahayati Bandar Lampung in 2020. This research was a quantitative study. This study used an analytical observational with a case control research design. Data analysis used chi square test. Heredity with the category of obese family history had a significant relationship with the incidence of obesity in the academic community of University of Malahayati Bandar Lampung in 2020. The results of study showed that the frequency of obesity in the group of respondents with hereditary factors who have an obese family history were 22 (73,3%), compared to respondents who did not have an obese family history were (23,3%). Statistical analysis found the frequency of obesity in heredity with category of obese family history was p-value = 0,00 (p <0,05) OR = 9,036. Statistically, there was not relationship between the risk factors of vitamin D levels in blood, gender, socioe-conomic, exercise, food habit and sleep duration towards the incident of obesity. Although statistically the risk factors for deficiency of vitamin D levels in the blood did not have relationship with the incidence of obesity, this study showed that 30 obese respondents who were assigned to the case group all of them had deficiency of vitamin D. Although, the fact that from 30 non-obese respondents, there were 29 respondents had deficiency of vitamin D too.

Keywords: Obesity, risk factors, deficiency of vitamin D

INTRODUCTION

Obesity or overweight is often defined as a disorder or disease characterized by excessive accumulation of body fat tissue (Sjarif et al., 2014). The increasing of Body Mass Index (BMI) can be a major risk factor for cardiovascular diseases such as heart disease, stroke, diabetes, osteoarthritis and cancer, including colorectal cancer, kidney cancer, ovarian cancer, breast cancer and prostate cancer (WHO, 2020), thus it could be understood that the high prevalence of obesity can have serious consequences for health conditions. BMI is a simple index of body weight for height which is commonly used to classify obesity in adults (Kementrian Kesehatan Republik Indonesia, 2014). For Asian people, especially Indonesia, a person can be said to be severely obese if they have a BMI above 27 (Supriasa et al., 2014).

In various previous studies, obesity is often associated with the incidence of deficiency of vitamin D levels in the blood (25 OHD) in a person's body (Vanlint, 2013); (Hermawan, 2016). In theory, it is said that the increasing levels of vitamin D in the blood can reduce body fat by a long chemical process in a person's body. Vitamin D in reducing body fat is associated with decreased parathyroid hormone and increased blood calcium. Increased intake of vitamin D will cause a decrease in parathyroid hormone levels and an increase in calcium levels in the blood. Increased levels of calcium in the blood will increase sympathetic nerve activity so that it will be able to increase body heat production. This condition will cause an increase in the destruction of fat in the tissue (Soares et al., 2011). So in this study the authors believe that there is a relationship between risk factors for vitamin D deficiency and obesity. Obesity is closely related to deficiency of vitamin D levels in a person's body (Sundari, 2018).

On the other hand, the incidence of obesity in a person can be influenced by several other factors such as gender, socioeconomic factors, exercise habits, heredity, eating habits and sleep duration factors. Regarding the gender factor, it is said that the incidence of obesity in the elderly is related to diabetes mellitus, men are more exposed than women (Rita, 2018). Meanwhile, for socio-economic factors, it was found that good nutritional knowledge causes a person to have good eating habits, thus the possibility of consuming unhealthy foods also decreases. The lower

the education, the higher the risk of obesity (Sugianti et al., 2014). The socioeconomic condition of a person contributes to the incidence of obesity, it is further revealed that the socio-economic condition has a significant effect related to the consumption of low-quality foods which will affect the increase in body mass index (Akil & Ahmad, 2011).

As for exercise habits, it can be explained that by providing physical exercise interventions and regular exercise for 6 to 12 months, it can lose 2-3% of one's body mass. In other studies, it was concluded that regular physical exercise can reduce body mass and lipid levels in the body (Kim et al., 2017). Then for heredity, the previous study was obtained that both parents and one of them who are obese have a tendency to give birth to obese children (Septiani & Raharjo, 2017). Furthermore, it is said that obese parents tend to have obese children too (Permatasari et al., 2013). And by using the latest genetic and physiological architectural models suggest the contribution of genes or heredity to a person's obesity condition (Walley et al., 2009). For the eating habits factor, it is explained that someone who is overweight or obese is a sign that food intake as a source of energy and the fat content exceeds the need (Par'i et al., 2017). Then for the duration of sleep, it was found that short or insufficient sleep duration could cause obesity (Pratiwi & Nindya, 2017). The optimal amount of sleep needed to adequately and to avoid sleep deprivation and not to have daytime sleepiness problems is around 7 - 8 hours for adults each day. This can avoid an increased risk of obesity, diabetes, or cardiovascular disease (Health, 2011).

RESEARCH METHODS

This study was an analytical observational study with a case control study design. Data analysis used the chi-square test. This study aims to describe the relationship of risk factors such as blood vitamin D levels (25 OHD), gender, age, socioeconomic, exercise, physical activity, eating habits, sleep duration and genetic factors on obesity that occurs in the the academic community of University of Malahayati Bandar Lampung in 2020. Respondents in this study were 60 lecturers, administrative staff and students. Of these 60 people were grouped into 30 respondents

in the case group, namely respondents who were categorized as obese and 30 respondents who were categorized as control groups, namely respondents who were categorized as normal. Determination of obesity and normal is calculated using the BMI formula, namely body weight in kilograms divided by height in meters. After that the respondents were taken blood specimen samples to determine the vitamin D levels in the blood (serum 25 OHD) of all these respondents. Then the last respondent filled out a form to find out the description of the respondent related to gender, age, socioeconomic factors, exercise, physical activity, eating habits, sleep duration and genetic factors. After all the steps have been completed, statistical data will be carried out.

RESULT

In data analysis, it is obtained an overview of the distribution of data and its relationship as follows. By univariate analysis, the frequency distribution of vitamin D in the case group obtained that there are 30 respondents (100%) have a deficiency of vitamin D, while from the control group it was found that there are 29 respondents (96.7%) also have a deficiency of vitamin D, only 1 respondent (3.3%) who is normal. The frequency distribution for gender found that there are 15 respondents (50%) from the case group are female and 15 respondents (50%) are male. Meanwhile, from the control group, 18 respondents (60%) are male and 12 respondents (40%) are male. For socio-economic variables, it is found that in the case group there are 26 respondents (86.7%) having a high socio-economic status and 4 respondents (13.3%) having a low socio-economic status. Meanwhile, in the control group, there are 28 respondents (93.3%) having a high socio-economic status and 2 respondents (6.7%) having a low sociao-economic status. Then for the exercise variable, the frequency distribution was found that in the case group there are 24 respondents (80%) doing exercise irregularly and 6 respondents (20%) doing exercise regularly. While in the control group, there are 25 respondents (83.3%) doing exercise irregularly and there are 25 respondents (16.7%) doing exercise regularly.

Then for hereditary factor, it is found in the case group, there are 22 respondents (73.3%) coming from families with a history of obesity and 8 respondents (27.6%) coming from families who don't have history with obese. Meanwhile, from the control group, there are 7 respondents (23.3%) coming from families with a history of obesity and 23 respondents (76.7%) are from

families who don't have a history with obese. Furthermore, in the frequency distribution of food habits, in the case group there are 19 respondents (63.3%) having food habits with the high fat or carbohydrate and there are 11 respondents (36.7%) having balanced food habits. Meanwhile, in the control group, there are 22 respondents (73.3%) having food habits with the high fat or high carbohydrate and there are 8 respondents (26.7%) having balanced food habits. And the last variable, the frequency distribution of sleep duration in the case group, there are 24 respondents (80%) having sleep duration less than 8 hours each day and 6 respondents (20%) are adequate in sleep duration. Meanwhile, in the control group, there are 17 respondents (56.7%) having sleep duration less than 8 hours each day and there are 13 respondents (43.3%) having adequate sleep duration every day.

By observing the distribution of the data, the author used a chi-square test to perform the relationship between those variables and the incidence of obesity. From all variables are correlated with obese factors, it was found that there is only 1 variable having a significant relationship with the incidence of obesity. This variable is heredity. In this chi-square test was found that the p-value = 0.00 and OR = 9.036. It can be explained that there is a relationship between hereditary factors and the incidence of obesity. Furthermore, obtaining OR = 9.036 means that respondents who have hereditary factors with obese are at risk for obesity by 9.036 times compared to respondents who do not have hereditary factors with obese.

Although there is not significant relationship between the incidence of obesity and deficiency of vitamin D in the academic community of University of Malahayati, the distribution of data shows that there are 59 respondents (98.3%) from 60 respondents who were divided into two groups (case and control group) having a deficiency of vitamin D. It is really interesting enough to be investigated further. Although these results do not match what Simon Vanlint wrote in his journal review entitled Obesity and Vitamin D (Vanlint, 2013), but these results again and again will be a note that the deficiency vitamin D does not only occur on obese people, but can occur on not obese people. The deficiency of vitamin D occurs not only caused by obesity, but also triggered by other factors such as adequate sun exposure, food, disorders of the body's metabolic system, consumption of certain drugs and comorbidities (Hermawan, 2016). Moreover, it can be

explained that the use of sunscreen and skin color also affects the occurrence of the deficiency of vitamin D (James Dowd & Stafford, 2012)

Table 1

No	Respondent Characteristics	Frequency (F)	Percentage (%)	Total (%)	
				F	(%)
	Body Mass Index (BMI)				
1	Non Obese	30	50	60	100
	Obese	30	50		
	Serum 25 OHD				
2	Normal	1	1,7	60	100
	Deficiency	59	98,3		
	Gender				
3	Male	27	45	60	100
	Female	33	55		
	Ages				
4	18 - 23 years old	51	85	60	100
	≥ 24 years old	9	15		
	Social-economy				
5	Low	6	10	60	100
	High	54	90		
	Exercise				
6	Regular	11	18,3	60	100
	Irregular	49	81,7		
	Physical Activity				
7	Our door	7	11,7	60	100
	In-door	53	88,3		
	Heredity				
8	Non obese	31	51,7	60	100
	Obese	29	48,3		
	Food Habits				
9	Balance	19	31,7	60	100
	High carbo or fat	41	68,3		
	Sleep Duration				
10	7 - 8 hours a day	19	31,7	60	100
	Less than 7 - 8 hours a day	41	68,3		

Table 2

Univariate Analysis Associated Factors With Obesity Incidence

Variabel	Categories	Case (Obese)		Control (Non Obese)	
		F	(%)	F	(%)
Serum 25 OHD	Normal	0	0	1	3,3
	Deficiency	30	100	29	96,7
Gender	Male	15	50	12	40
	Female	15	50	18	60
Ages	18 - 23 years old	26	86,7	25	83,3
	≥ 24 years old	4	13,3	5	16,7
Social-economy	Low	4	13,3	2	6,7
	High	26	86,7	28	93,3
Exercise	Regular	6	20	5	16,7
	Irregular	24	80	25	83,3
Physical Activity	Our door	4	13,3	3	10
	In-door	26	86,7	27	90
Heredity	Non obese	8	27,6	23	76,7
	Obese	22	73,3	7	23,3
Food Habits	Balance	11	36,7	8	26,7
	High carbo or fat	19	63,3	22	73,3
Sleep Duration	7 - 8 hours a day	6	20	13	43,3
	Less than 7 - 8 hours a day	24	80	17	56,7

Table 3

Chi Square Test Results of Associated Factors With Obesity Incidence

		The Incidence of Obesity				Sig	OR 95%
		Case		Control			
		N	%	N	%		
Serum 25 OHD	Normal	0	0	1	3,3	1,00	-
	Deficiency	30	100	29	96,7		
Gender	Male	15	50	12	40	0,60	0,667
	Female	15	50	18	60		
Ages	18 - 23 years old	26	86,7	25	83,3	1,00	0,769
	≥ 24 years old	4	13,3	5	16,7		
Social-economy	Low	4	13,3	2	6,7	0,67	0,464
	High	26	86,7	28	93,6		
Exercise	Regular	6	20	5	16,7	1,00	0,800
	Irregular	24	80	25	83,3		
Physical Activity	Our door	4	13,3	3	10	1,00	0,722
	In-door	26	86,7	27	90		
Heredity	Non obese	8	27,6	23	76,7	0,00	9,036
	Obese	22	73,3	7	23,3		
Food Habits	Balance	11	36,7	8	26,7	0,58	0,628
	High carbo or fat	19	63,3	22	73,3		
Sleep Duration	7 - 8 hours a day	6	20	13	43,3	0,10	3,590
	Less than 7 - 8 hours a day	24	80	17	56,7		

DISCUSSION

In the bivariate analysis using the chi-square test, it is explained that there is not relationship between vitamin D levels in the blood (serum 25 OHD) and the incidence of obesity because the p-value was greater than 0.05. However, the distribution of respondents having a deficiency of vitamin D is very large, there are 30 obese respondents in the case group (100%) having a deficiency of vitamin D and there are 29 non-obese respondents in the control group (96.7%) having a deficiency of vitamin D too. Regardless of the condition of the results of this study that most of the non-obese respondents in the control group having a deficiency of vitamin D, all of the obese respondents in the case group having a deficiency of vitamin D. This is separate evidence that although statistically there is no correlation, it is theoretically correct that vitamin D is closely related to the incidence of obesity.

The relationship between vitamin D and obesity can be explained that the increasing vitamin D in the blood will cause the decreasing parasympathetic hormone (PTH) and the increasing calcium levels in the blood. Along with the increasing calcium levels in the blood, will increase the sympathetic nervous system (SNS) response, thus it will affect the increasing body heat production (FOR & Thermogenis). With the increasing body heat production will cause the increasing of the destruction of fat (Do Novo Lipogenesis) in the body tissues. On the other hand, the increasing calcium levels in the blood will affect the entire work of the digestive tract so that it will cause a lot of fat to be wasted with feces (Faecal fat & Energy loss). Furthermore, it can be explained that the increasing vitamin D in the blood can stimulate or increase insulin production in the blood too. With the increasing hormone insulin can affect the sensitivity of the insulin hormone itself. Increasing sensitivity to the hormone insulin can reduce hunger. Finally, reducing hunger has an impact on reducing the amount of food intake.

In theory, from the whole series of processes that occur, it is true that increasing levels of vitamin D can reduce body fat (Soares et al., 2011). The same thing was also expressed by Ganji et al. that the increasing of the population of obesity in the data studied since 1988 to 1994 then continued again from 2001 to 2006 had an effect on decreasing vitamin status (Ganji et al., 2012).

Although in this study states that vitamin D does not have relationship to the incidence of obesity in the academic the community of University of Malahayati statistically, the occurrence of deficiency of vitamin D (serum 25 OHD) is very large, reaching 98.3% of the total respondents. This is the fact that again and again it suggests to all of us that Indonesians who receive daily exposure to sunlight as the main source of vitamin D still having a deficient of vitamin D. Other factors cause the deficiency of

vitamin D may have an effect such as the use of sunscreen and the type of skin color also affect the occurrence of the deficiency of vitamin D (James Dowd & Stafford, 2012). Furthermore, a deficiency of vitamin D can occur due to wearing of long clothes, using umbrellas, riding covered vehicles, tending to be in the room during the day and other activities that block direct sunlight to the human frequently. (Hermawan, 2016). Moreover, it can be explained that the deficiency of vitamin D can caused by insufficient intake of foods containing provitamin D (Eliza Glowka et al., 2019).

Once again, related to the factors that cause the deficiency of vitamin D can be explained that medical conditions such as Crohn's disease, cystic fibrosis, celiac disease, removal of part of the intestine or stomach can be associated with malabsorption of fat which can lead to the deficiency of vitamin D. So that impaired absorption of fat can lead to the deficiency of vitamin D (Fiannisa et al., 2019).

Although the alternative hypothesis (Ha) is rejected and the null hypothesis (Ho) is accepted in this study related to the relationship of risk factors of vitamin D to the incidence of obesity, it can be underlines that the distribution of the deficiency of vitamin D in the incidence of obesity is very high. There are 30 obese respondents in the case group, all of them having a deficiency of vitamin D. Apart of the non-obese respondents in the control group, but they have a deficiency of vitamin D, it seems that the exposure to the cause of a deficiency of vitamin D is not only due to a single factor, that is obesity only but other factors such as the adequacy factor in receiving sun light exposure, food intake, daily activity patterns, lifestyle, and certain diseases contribute to the deficiency of vitamin D.

lthough the results of this study are actually not in line with previous research conducted by Simon Vanlint in 2013 entitled "Vitamin D and Obesity" with a total of 383 respondents, in which the study stated that the incidence of obesity can affect the occurrence of deficiency of vitamin D levels in the blood (25 OHD) with p-value = 0.014 (Vanlint, 2013), but a health promotion approach that emphasizes behavior change for healthy living is an alternative to controlling obesity and the deficiency of vitamin D.

According to Blum in Surahman and Supardi, 2016 states that the domain of health behavior includes cognitive (knowledge), affective (emotion), and psychomotor (movement, action) behavior. Health behavior is a response of someone towards the stimuli related to illness and disease, the health service system, food, and the environment. Health behavior includes 4 (four) things as follows (Surahman & Supardi, 2016) :

Illness behavior, it refers to all actions or activities performed by a sick person to feel and recognize their health condition, including the ability to identify diseases, causes of disease, and efforts to prevent them. In this case, check the level of vitamin D at least once in a lifetime should be done to find out whether there is a deficiency or not. Then if you have a deficiency, you should avoid the factors that cause it and make behavioral changes to increase vitamin D levels by sunbathing in the morning.

Health service behavior, it refers to the behavior towards traditional and modern health service facilities, which is manifested in knowledge, attitudes and use of service facilities, personnel and medicine. In this case taking vitamin D tablets or capsules is important if deficiency is known.

Nutrition behavior, it refers to the behavior of a person towards food as a vital need for life, includes knowledge, attitudes and practices towards food, the nutritional elements contained there in, food management, etc. Consuming foods or drinks which contain lots of pro-vitamin D, such as milk, orange juice, eggs, fish, shrimp, soybeans and their derivative products such as soybean cake and tofu; then cheese, cereals, fish oil, fish eggs, mushrooms, and spinach are important in overcoming the deficiency of vitamin D (Hermawan, 2016).

Environmental health behavior, it refers to the behavior of someone towards the environment as a determinant of human health which includes knowledge, attitudes and actions. In this case, it is related to the habit of wearing umbrellas, wearing clothes that cover the whole body and other activities or habits that block the sunlight comes to the skin must be reduced or avoided.

The duration of sun exposure every day greatly affects the adequacy of vitamin D levels in the body. People who have outdoor activities every day have better levels of vitamin D in the body than people who have daily activities indoors. (Rimahardika et al., 2017). Based on this study, it was explained that people who work indoors are more at risk of having a deficiency of vitamin D than people who work outdoors, it can be caused by vitamin D intake obtained through sun exposure. Insufficient sun exposure due to frequent use of clothing covered with clothing that is difficult to absorb sunlight such as cotton cloth and body armor such as hats, umbrellas and sunscreens can also affect deficiency of vitamin D.

Regardin to the gender, from the chi-square test was found that p-value = 1,000 and OR = 1.667, meaning that there is not significant relationship between the gender with the female risk factor and the incidence of obesity in academic community of the university of Malahayati because the p-value > 0.05. In this case, Ha was rejected and Ho was accepted. This research is actually not in line with the previous studies conducted by Conklin et al. in 2016, the title "Minimum Wage and Overweight and Obesity in Adult Women: A Multilevel Analysis of Low and Middle Income Countries", where in the study it was found that the gender with the female risk factor has a relationship with the incidence of obesity with the p-value = 0.01 (Conklin et al., 2016). However, for the gender factor, could be female or male should pay more attention to this obesity problem, because it is known that the risk of obesity, both female and male can cause serious diseases such as heart disease, stroke, diabetes, osteoatritis and cancer. These include colorectal cancer, kidney cancer, ovarian cancer, breast cancer and prostate cancer (WHO, 2020).

By getting the p-value = 0.67 and OR = 0.464 through the chi-square test for socio-economic factor can be concluded that high socio-economic as the risk factors doesn't have relationship with the incidence of obesity. The alternative hypothesis (Ha) is rejected and the null hypothesis (Ho) is accepted. This research is actually not in line with the previous research conducted by Rifai Ali and Nuryani in 2018 entitled "Socio-Economic, Fast Food Consumption and Obesity History as A Risk Factors of Adolescent Obesity" The research stated that the high socio-economic as risk factor has relationship with the incidence of obesity with the p-value = 0,000. Nevertheless, socio-economic factors should be a driving force for better health conditions. Because someone who has a high socio-economic status will be easier to maintain his health, including the risk of obesity (Puluhulawa, 2013).

In the bivariate analysis using the chi-square test, it was found that the distribution of exercise factor there were 24 obese respondents (80.0%) did not do exercise regularly, and there were 25 non- obese respondents (83, 3%) didn't either. Then from the test obtained p-value = 1.00 and OR = 0.800. From the results of the chi-square test can be interpreted that there is not relationship between exercise and the incidence of obesity in academic community of the

University of Malahayati in 2020. The result is the alternative hypothesis (Ha) is rejected and the null hypothesis (Ho) is accepted. It should be noted that this research can be interpreted as not in line with the previous research conducted by Muhammad Adam Mappaompo in 2010 with the theme "Obesity and Exercise" where in the study was stated that exercise was able to reduce the incidence of obesity (Mappaompo, 2010). And also it is not inherent with the previous research conducted by Bo Yeon Kim et al. in 2017 too entitled "Obesity and Physical Activity" where in the study it was stated that physical activity or exercise has a significant value in losing weight with a p-value < 0.05 (Kim et al., 2017). Although the results of this study are not in line with the existing hypothesis, it is well known and realized by most of our society that exercise or physical activity has benefits for the health of the human body. Apart from the results of the statistical test analysis in this study which states that exercise doesn't have relationship with the incidence of obesity, it is has been recognized by everybody that having exercise regularly every day really helps to improve human health. Exercise or physical activity which is done regularly can reduce the risk of several chronic diseases and reduce premature death. Or in other words, it can be interpreted that lack of exercise or physical activity is the main cause of chronic disease. For this reason, exercise or physical activity is good and correct to improve health people both individual and groups in society (Brown et al., 2010).

Furthermore, it can be explained that exercise is very important for everybody in society. Exercise can increase human endurance. Exercise has been proven to be healthy for body and soul. Although it should be understood that exercise does not cause people to be immune to infectious diseases, by exercising regularly regularly can reduce the damage that may be caused by these infectious diseases (Giriwijoyo et al., 2005). Seeing the condition of Indonesia and all over the world nowadays, which is currently experiencing the pandemic Covid-19, diligently exercising will be able to increase endurance and minimize the impact caused by the infection of covid-19 virus.

Regarding the factors of food habits and sleep duration, the chi-square test did not find a significant relationship between them to the incidence of obesity in this study. Either the relationship between food habits and sleep duration on the incidence obesity has a p-value

greater than 0.05; (p-value > 0.05). This illustrates that in this study, food habits with high carbohydrate or fat as the risk factor didn't have relationship with the incidence of obesity. Likewise, the sleep duration factor with sleeping less than 8 hours as a risk factor didn't have relationship with the incidence of obesity. In this study, it can be explained again that this study is not in line with the previous study written by Silveira et al. which stated that food habits with high carbohydrate or fat as the risk factor impacted to the incidence of obesity by obtaining p-value = 0.03 in the study (Silveira et al., 2016). And the sleep duration factor is also not in line with the previous researchers said, Damayanti et al. which stated that the sleep duration with the sleeping less than 8 hours as a risk factor has correlation with the incidence of obesity with the p-value =0.001 (Rachmania Eka Damayanti et al., 2019). Although the food habits and sleep duration do not have a significant relationship with the incidence of obesity, specifically looking at the OR value on the sleep duration with sleeping less than 8 hours each a day as risk factor obtained the OR = 3.590 which is able to be interpreted that the respondent with sleeping less than 8 hours each a day has a risk 3.590 times to have an obesity.

Furthermore, although in this study the factors of food habits and sleep duration do not have relationship with the incidence of obesity statistically, it needs to be explained again that these two factors have a correlation with the degree of human health. Having good food habits and adequate sleep duration can improve human health. Related to food habits, consuming lots of fruits and vegetables every day can increase vitality and endurance. The more various types of food consumed, the more antioxidants and nutrients the body will produce. Natural antioxidants can be obtained from various types of vegetables and fruits such as broccoli, cabbage, green mustard greens, oranges and etc. In addition, vegetables and fruit also contain iron and vitamins which are very good for the body and there are many other ingredients in vegetables that are good for health. Therefore, vegetables and fruit are important for health. Moreover, if you do not eat enough vegetables can cause various conditions which disturb your health, such as anemia, vitamin deficiency and etc (Hargono, 2018).

Then also the duration of sleep has an important role in human health. Every individual should have adequate and quality sleep. Getting enough sleep at least 7 to 8 hours per day, and quality

sleeping means sleeping without waking up in the middle of the night or having nightmares (Stevenson, 2014). More specifically, it is said that adequate in sleep duration can reduce the risk of developing high blood pressure or hypertension and heart disease (Alfi & Yuliwar, 2018).

Heredity is the only one variable in this study which has a significant relationship with the incidence of obesity. Based on the bivariate analysis, it was found that there are 22 respondents (73.3%) who have heredity with obesity. Meanwhile, there are 7 respondents (23.3%) who don't have heredity with obesity. The heredity with obesity comes from a father, a mother or both parents. Then by using the chi-square test obtained significantly the p-value = 0.00 and OR = 9.036.

From the results of the test, could be stated that there is a relationship between heredity and the incidence of obesity in the academic community of University of Malahayati because the p-value is <0.05. Related to the value of OR = 9,036, it means that respondents who have heredity with the obesity have a risk to be obese 9.036 times than respondents who don't have heredity with obesity. The alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. The results of this study is consistent with previous studies conducted by Apurva Srivastava et al. In 2016, the title "Genetics of Obesity", in which the study stated that heredity affects to the incidence of obesity (Srivastava et al., 2016). And this research is in line with earlier research conducted by Andrew J. Walley et al. entitled "The Genetic Contribution To Non-Syndromic Human Obesity" in 2009 which stated that the heredity (gene) of "suppressor of cytokine signaling" affects the incidence of obesity with p-value = 0.003 (Walley et al., 2009).

CONCLUSION

Although there is not relationship between vitamin D (serum 25 OHD) and the incidence of obesity in this study, from all the existing variables, both case and control groups, was found that 98.3% of the respondents having the deficiency of vitamin D. This will be a special note for researchers that deficiency can occur not only in obese but also in non-obese people. Related to other factors, the incidence of obesity is only significant with one factor that is heredity. Thus, in this study can be concluded that only heredity factors have a relationship with the incidence of

obesity in the academic community of University of Malahayati Bandar Lampung in 2020 with a significant value of p-value = 0.00> (p-value <0.05) and odds ratio (OR). = 9,036.

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Ancestral wound healing treatment in modern application

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Abstract

Honey was known and used by human since a very long time ago. A discovery of a rock painting, the Man of Bicorp, was made in 1921 in Cueva de la Arana (Spider Cave) in Valencia, Spain. The painting is believed to date back around 15000 years which would be near the end of the Palaeolithic era.In addition to that, archaeologists also found a painting in a Neolithic shrine at Catal Huyuk in Anatolia which dated far back to around 700 BC. These patterns were then interpreted as the life cycle of the bee in a honeycomb. Uses of honey during that era there were as a natural sweetener, to treat wounds, to use its wax for painting, embalming bodies, binders for ships and boats, and cosmetics The major therapeutic action of honey in improving the wound healing process comes through its antioxidant activity since it can prevent the detrimental effects on the wounded site caused by oxidative stress. Honey also possesses anti-inflammatory properties which results in less scarring from the healing of wounds.The anti-inflammatory property in honey is contributed by phenolic compounds. Several studies have proven that phenolic compounds can inhibit the overproduction of inflammatory mediators such as nitric oxide and prostaglandin E2.

Herbal Medicine for Diabetes Mellitus Treatment: Status and Prospects

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Abstract

Diabetes mellitus (DM) is a chronic and metabolic disease due to ineffective insulin production in the body. It is a leading cause of death and is projected to affect about 693 million people by 2045 and considered an epidemic by the World Health Organization. Diabetes is associated with other diseases include hypertension, atherosclerosis, obesity, and multiple infections due to its pathological features. Anti-diabetic drugs such as sulfonylureas, meglitinide, insulin, thiazolidinediones, and α-glucosidase inhibitors as monotherapy or combination therapies have significantly improved diabetes management. However, they present severe adverse side effects, toxicity, and high cost of treatment. Medicinal plant applications are safe green health in the treatment of diabetes due to the phytochemicals' presence and their mechanisms of action. The vast availability of chemical diversity in medicinal plants as standardized extracts and pure compounds has produced hope for discovering new drugs that could combat many diseases. This review highlights the prospect of continually sourcing anti-diabetic plants and appraises the current state of herbal medicines' in DM treatment and management.

Hepatoprotective effect of Paracetamol-Honey suspension

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A widely used drug, easy to get without doctor's prescription and available in various single or fixed-dose combination drugs, increases the public's risk to paracetamol drug poisoning that is harmful to the liver. Besides, the prevalence of patients inflicted with hepatic damage have become an alarming figure contributing to the increase in mortality rate. Major causes of hepatotoxicity are due to polypharmacy and chronic use of certain drugs apart from viral infection and intoxicant (alcohol) intake. It was reported by WHO Collaborating Centre for International Drug Monitoring that the five common drugs associated with fatalities during 1969-1990 were paracetamol (PCM), troglitazone, valproate, stavudine and halothane due to drug-induced liver injury (DILI), with old aged patients accounted for the majority. The figure then seems to be alarming only to PCM beyond 1990 that caused dose-dependent DILI.

A sustainable, traditionally used, honey, has organically established its safety profile and numerous other therapeutic benefits. One of particular interest here is its hepatoprotective effect. We had prepare a fusion medicine combining paracetamol (a conventional, classical drug) with honey (a prophetic, natural and traditional medicine) intended to solve the hepatotoxic risk of paracetamol itself. Phytochemical analyses were first conducted on the pure honey and the fusion medicine (paracetamol+honey, PCMH). The latter was formulated as suspension form. Total phenolic compounds were analysed according to the Folin Ciocalteau method with Gallic Acid as the standard. Additionally, the flavonoid contents from the two

samples were also analysed using quercetin method. In order to characterize its radical scavenging activities, the honey and PCMH were subjected to DPPH (2,2-diphenyl-1-picrylhydrazyl) assay.

In vivo test on hepatoprotective effect was done on 24 healthy male albino Sprague Dawley rats aged 5-6 weeks and weighed about 120-150 g. The rats were divided to 4 treatment groups hence each group consisted of 6 rats. They were acclimatised for 7 days. On Day 8th, the bloods were withdrawn from the animals for pre-treatment evaluation. Then on Day 9th, Group 1 received orally administered (by forced-feeding) distilled water, Group 2 received paracetamol sugar suspension (PCMS), Group 3 received PCMH and Group 4 received honey alone. These single doses were 2g/kg/BW for the drugs (PCMS and PCMH) whereas 30g/kg/BW for the honey and water alone. All animals were sacrificed post 24 h treatment and their blood and tissue were subjected to further analysis. Based on the biochemical blood analysis, following single toxic dose of PCMH and PCMS, the alanine transaminase (ALT) enzyme was significantly elevated ($p<0.05$) in the PCMS-treated group as compared to PCMH and honey-treated group. Similar significant ($p<0.05$) elevation of the aspartate transaminase (AST) enzyme, another biomarker for a liver damage, was also seen in the PCMS-treated group. PCMH-treated group exhibited slightly higher expression of both enzymes as compared to honey-treated group. Presence of honey in the PCMH was seemed able to significantly suppress hepatotoxic effect of PCM. Histopathological observations of the liver further supported the results of biochemical assay. The liver from the control and honey-treated group demonstrated healthy liver. In contrast, the liver from PCMH-treated animal showed slight inflamed cells infiltration and vacuolization but overall, the presence of honey was able to protect the liver against severe damage as seen in PCMS-treated animal. The latter showed prominent liver injuries characterized by central vein distortion, severe hepatocyte degeneration and large area of centrilobular necrosis. It was postulated that presence of flavonoid and phenolic compounds in PCMH protected the liver against chemically-induced damage via inhibition of oxidative damage and consequent degeneration and necrosis of the liver tissue.

As a conclusion, the results will pave the way to a more development of fusion medicines combining contemporary and prophetic or traditional or herbal medicine to achieve a certain degree of hepatoprotection while synergistically treating the disease. The application of such fusion medicine can be extended to reduce the risk of hepatotoxicity in polypharmacy. This concept of fusion medicine and treatment shall be advocated to achieve a better quality of medicine in any clinical management of diseases in the future.

ICTM 2021

Abstract of Paper Presentation

Academician/Research Scholars Category

AP-01 to AP-09

AP-01

Pharmacognostic Investigation of *Tectona grandis* Linn. bark

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Abstract

Tectona grandis Linn. belonging to Lamiaceae family is an important endangered plant that has been therapeutically used to treat different pathological manifestations since ages. It is commonly called as teak and locally known as sagon, sagwan. A lot of adulterations are also present in the market. The present study is aimed towards evaluating pharmacognostical and histochemical characteristics of the bark of *T.grandis* Linn. in detail. Macroscopic and microscopic pharmacognostical characters of bark and histochemical studies were noted by standard methods. Pharmacognostical evaluation of bark shows the presence of cambial zone, phloem layer, sieve tubes, parenchyma cells and medullary rays. The observations found in current work can be considered as reference standards in future studies and help to identify the plant from its other species

AP-02

HPTLC Analysis and Force Degradation Study of Tapentadol Hydrochloride in Bulk and Its Pharmaceutical Formulation

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ABSTRACT:

In order to achieved easy, sensitive reproducible high performance thin layer chromatography (HPTLC) densitometric method was developed validated for determination of tapendol HCl and its pharmaceutical formulation. In this method the ethyl acetate: methanol: ammonia (6:4:0.5v/v/v) were used as mobile phase for chromatographic separation of the drug. The method has been performed on precoated silica Tab 60F254 Merck plates and the Rf values was calculated 0.47 for tapentadol HCL. The calibration curve was plotted in the concentration range of 1000-3000ng/ml. The limits of quantitaion and limit of detection were found to 0.07 and 0.23µg/ml respectively. The correlation coefficients (r) value was obtained 0.990 for tapentadol HCL. The percent recoveries were obtained between 99-101% for tapentadol HCl. The method has been validated according to ICH guidelines for linearity, precision, accuracy, specificity and robustness. The degradation behavior was recorded under acidic, basic, neutral, oxidative, photolytic and thermal stress conditions. The degradation products were well separated from the pure drug under the optimized conditions. As the method could effectively separate the drug from its degradation products, it can be employed as stability-indicating method for tapentadol HCl.

KEYWORDS: Tapentadol HCl, High performance thin layer chromatography, method validation, force degradation etc.

AP-03

Formulation of PPAR-gamma agonist as surface modified PLGA nanoparticles for non-invasive treatment of diabetic retinopathy: in vitro and in vivo evidences

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Abstract

Diabetic retinopathy is one of the worst complications of diabetes and it is treated by invasive method. We prepared a surface modified poly (D, L-lactide-co-glycolide) i.e. PLGA nanoparticles for delivery of pioglitazone-a peroxisome proliferator-activated receptor-gamma agonist to posterior segment of the eye by topical administration. The present study investigated two grades of PLGA viz. 75:25 and 50:50. Surface modification was performed using polysorbate 80. Nanoparticles were prepared by single emulsion solvent evaporation method and optimized by using 3-factor 3-level Box-Behnken statistical design. Mean particle size, PDI and entrapment efficiency for optimized batch of PLGA 75:25 was found to be 163.23 nm, 0.286 and 91%, whereas; for PLGA 50:50 it was 171.7 nm, 0.280 and 93% respectively. DSC confirms the molecular dispersion of drug in polymer. In vitro release study showed biphasic drug release pattern with 58.48 ± 1.38% and 74.17 ± 1.38% cumulative drug release by PLGA 75:25 and 50:50 nanoparticles at the end of 10h. The release profile of pioglitazone from nanoparticles appeared to fit best with Higuchi model. In vivo study on rat showed dose dependent reduction in vascular endothelial growth factor concentration in vitreous fluid. The study reveals significance of peroxisome proliferator-activated receptor-gamma in management of diabetic retinopathy.

AP-04

Synthesis and Evaluation of 4-((5-(Substituted Benzylideneamino)-1,3,4-Thiadiazol-2-yl)-Methyl)-7-Methyl-2H-Chromen-2-One as Anti-Tubercular Agent

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Abstract:

Tuberculosis (TB) is a highly infectious disease. It is caused by the pathogen Mycobacterium tuberculosis (Mtb). TB has been a scourge on humankind for centuries. Even it becomes worst in the view of HIV infection and recent pandemic covid 19 situation. *Mycobactrium Tuberculosis* is producing fast resistant against the drugs which makes treatment challenging. We have synthesized imine derivatives of coumarinyl thiadiazole by use of TsOH with various substituted benzaldehyde. The advantage of using Dean-Stalk apparatus for synthesis of Schiff base was generated water can be removed from reaction which imparts stability to the formed imines. We obtained pure product up to 60% of yield. All synthesized compounds were fully characterized through FTIR, ^{1}H NMR, and Mass Spectroscopy. All synthesized compounds were screened in vitro against *Mycobacterium tuberculosis* $H_{37}Rv$ by L.J.Method.The benzylidene/imine functional group is important in organic and medicinal chemistry. The present study reported that Compounds **6a**, **6c** and **6d** found active at 100 µg/mL and 50 µg/mL, respectively. This result reveals that imine had low to moderate potency against *M.tb.*

Key Words:

Coumarin, TsOH, Thiadiazole, Schiff base, Anti- Tubercular agent

AP-05

MARMA Therapy in the management of Chronic pain.

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Abstract

Chronic pain (CP) is a major healthcare problem. Although acute pain may reasonably be considered a symptom of a disease or trauma which may successfully be treated. However, CP may be considered a disease in its own right as described by European Federation of International Association for the Study of Pain (IASP) Chapters Declaration on Pain. CP is one of the most disabling problems with significant health, social, and economic repercussions.

Approximately 30% of the world's population suffers from pain. Various regional pain surveys' reliable estimates indicate that the CP prevalence is somewhat closer to 30%–40%. A big CP prevalence survey “Pain in Europe” reported it as 12%–30% in the European countries.However, in a four countries Asian pain survey, Singapore reported a lower prevalence of CP as 8.7%.

As per NCBI, Globally it has been estimated that 1 in 5 adults suffer from pain and that another 1 in another 10 are diagnosed with chronic pain[1]. The Marma therapy treatment creates an opportunity to experience powerful and dynamic transformation at the physical, mental, emotional and spiritual level by building a positive link with the unconscious mind. It creates physical, mental and emotional flexibility.

AP-06

Development of Nanostructured lipid carriers loaded with Corosolic acid: An efficient carrier for Antidiabetic Effects

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Abstract

The aim of the present study was to develop a stable NLCs of Corosolic acid to improve its oral bioavailability. Corosolic acid is water insoluble, lipophilic, and highly permeable resulting in its incomplete and variable bioavaibility. Thus, a suitable formulation is highly desired to enhance the aqueous solubility and dissolution rate of corosolic acid to obtain faster onset of action, minimize the variability in absorption and improves its overall oral bioavailability. NLCs of Corosolic acid were formulated by solvent diffusion method technique after lipid screening tests by using central composite design. The formulated NLCs were characterised for Mean Particle size, Transmission electron microscopy, in vitro drug release study. It was revealed that the average size of NLCs was found 201.4±1.2 nm, TEM was found 200 nm. In-vitro release determined by dialysis bag diffusion technique was found 70% at the end of 6 hr. The result of the studies was concluded that Corosolic acid was successfully incorporated into NLCs by Solvent diffusion method with high entrapment efficiency, so NLCs can be demonstrated as a potential carrier to improve oral bioavailability of Corosolic acid.

ICTM 2021

Abstract of Poster Presentation

Academician/Research Scholars Category

AP-01 to AP-04

APO-01

Review Of Various Dosage Forms And Drug Development In Traditional Ayurvedic Medicine

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Abstract:

Ayurveda, has a strong heritage in India and is being practised for treating various ailments. The traditional Ayurvedic medicine is in resurgence of interest in last few decades. Ayurveda has its own devoted discipline for drug development system known as “Bhaisajya Kalpana”(Ayurvedic pharmaceutics). The traditional medicine is having many dosage forms. The ayurvedic literature and published article in this context was reviewed and analysed in present study. Ayurvedic pharmaceutics has its concept of “Pancavidha Kashaya Kalpana” for preparation of drug formulation. The raw material for drug formulation can be of plant origin, animal origin or mineral origin they can be hardly used as a drug in their natural form. They have to undergo specific processing to acquire a form of palatable drug. Such processing is termed as pharmaceutics i.e. ‘Bhaishajya Kalpana’ in terms of Ayurveda. Apart from this, it is a known fact that drug development is needed in the contemporary era. Drug development of traditional medicine dosage forms includes enhancement of palatability, solubility, pharmacological activity and bioavailability, safety, stability and increased therapeutic efficacy. In today’s era pharmaceutical companies are adopting innovations and recent trends in production of Ayurvedic medicines to achieve more relevance, recognition and acceptance of Ayurvedic medicines in contemporary world.

Keywords : Ayurvedic medicines, Bhaisajya Kalpana, Drug development.

APO-02

Evaluation of Wound healing Potential of Dendrocalamus Strictus Leaf Extracts on Animal Model

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Abstract:

Wounds affect a large number of patients and seriously reduce the quality of life. The wound as a medical problem was first discussed by *Maharshi Agnivesha* in *Agnivesha Samhita* (later known as *Charaka Samhita*) as *Vrana*. *Laghupanchamula* denotes a combination of the roots of five herbs. However in Ayurvedic classics, besides four common herbs viz. *Kantakari*, *Brihati*, *Shalaparni* and *Prinshniparni*, both extracts have been documented to have wound healing activity.The study was carried out with an objective to investigate the Antimicrobial and Wound Healing potential of leaves of *Dendrocalamus strictus*(DS). In the present study, the antimicrobial and Wound healing activity of Aqueous and Ethanolic extracts of leaves of *Dendrocalamus strictus* were evaluated.The Phytochemical analysis of the extracts were carried out.

Keyword: *Dendrocalamus strictus*, Phytochemical screening, Antimicrobial activity, Antifungal activity, Wound healing activity.

APO-03

Assessment of Memory Enhancing Potential of *Dendrocalamus strictus* Leaf Extracts.

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Abstract

Medicinal plants have always been the principle sources of medicine worldwide. India sustains a very rich traditional medicinal plant wealth and inherits unique plant and animal communities. Present study enumerates the phytochemical screening followed by antioxidant and memory enhancing evaluation of aqueous and methanolic extract of *Dendrocalamus strictus* (DS) leaves. The results showed that aqueous extract at 100µg/ml concentration and methanolic extract at 150µg/ml concentration showed the significant antioxidant effect as compared with ascorbic acid as standard. The In-Vivo memory enhancing activity of DS leaf extracts was evaluated by Morris water maze model in rats using Piracetam as a standard. Both the extracts at 200mg/kg concn showed significant to highly significant increase in number of entries & time spent in P zone (from $P < 0.05$ to $P < 0.001$). The result suggested that DS leaf extracts possess memory enhancing activity and this might be due to flavonoids, Phenolic compounds, Steroids present in extracts.

Stability Indicating Bioanalytical Rp-Hplc Method Development and Validation for Estimation Of Carvedilol

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ABSTRACT

A new method is established for estimation of Carvedilol by RP-HPLC method. The chromatographic conditions were successfully developed for the separation of Carvedilol by using Agilent column (4.6×150mm) 5µ, flow rate was 1.0 ml/min, mobile phase ratio was di-potassium hydrogen phosphate: MeoH (25:75% v/v),detection wavelength was 270 nm. The instrument used was WATERS HPLC Auto Sampler, Separation module 2695, photo diode array detector 996, Empower-software version-2. The retention times were found to be 5.242 mins. The % purity of Carvedilol was found to be 98.56%.The system suitability parameters for Carvedilol such as theoretical plates and tailing factor were found to be 4343.2, 1.6. The linearity study of Carvedilol was found in concentration range of 20µg-100µg and correlation coefficient (r^2) was found to be 0.999, % recovery was found to be 98.96%, %RSD for repeatability was 0.3, % RSD for intermediate precision was 0.8. The precision study was precision, robustness and repeatabilty.LOD value was 0.7 and LOQ value was 0.13.Hence the suggested RP-HPLC method can be used for routine analysis of Carvedilol in API and Pharmaceutical dosage form.

ICTM 2021

Abstract of Paper Presentation

Students Category

SP-01 to SP-12

SP-01

Determination of Quercetin in Green Tea (*Camellia sinensis*) for Phyto-Therapeutic Applications

Authors

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Abstract:

Globally, green tea is highly consumed health drink followed by water .Extensive research has been carried out w.r.t. health potential of green tea and presence of various bioactive compounds in it. However, limited study has been carried out w.r.t presence of polyphenolic flavonoid compound i.e. Quercetin . This compound has remarkable importance for preventive purposes, as well as it can be applied in combination with multiple drugs for determination of their abilities to potentiate or synergistically interact with different chemical agents. It also play key role to reduce the side effects and related toxicity of any drug , at the same time it increases overall efficacy and safety.Due to such promising properties ,this compound has increasing demand in the global market.Therefore, aim of this study is to determine the quercetin content of Green Tea sample for diverse Phyto Therapeutic applications .Samples of commonly used top four brands of Green tea were procured from market in Yr. 2020 and coded as GT1, GT2, GT3, and GT4.Optimization of solvent for solid-liquid extraction was carried out with solvents viz.1M NaOH and 80% Ethanol. Detection of Quercetin was carried out w.r.t. standard Quercetin by HPLC analysis. It was revealed that almost all samples extracted with 80% ethanol showed best results whereas, no quercetin was detected in any sample extracted with NaOH. Highest quercetin content i.e. 0.65 mg/g was shown by sample GT1, extracted with 80% ethanol. The order of Quercetin content for all sample was found as, GT1 > GT4 > GT2 > GT3.Therefore, green tea can be significantly used as efficient natural source of quercetin for diverse Phyto Therapeutic applications.

Keywords: Green Tea, Quercetin, Phyto-therapeutic , Bioactive, Polyphenol, Flavonoid

SP-02

Genotoxicity of Drugs: Mechanisms, Testing Guidelines and Methods for Evaluation

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Abstract:

It is estimated that 80% of world population rely on traditional herbal medicine for primary health care. With the rising utilization of herbal products, safety and efficacy of herbal medicine have become a public health concern. Adverse health effects associated with herbal products could be attributed to both inherent toxic effects of herbal medicine and toxicities induced by adulterants. Increasing evidence, regarding side effects of herbal medicine, has highlighted the demand and necessity of toxicological studies for herbal products. Toxicology constitutes an essential role in the development of herbal medicines. With the advancements of analytical techniques and molecular technology, coupling with the conventional test systems, the '-omic-' technology makes a significant contribution to the predictive and preclinical toxicology of herbal medicine. Although often perceived as innocuous by the general public, many herbs phytochemicals that are either directly reactive towards DNA or likely to disturb cellular homeostasis, cell cycle, andr genome maintenance mechanisms; this may translate into genotoxicity, carcinogenicity, or co-carcinogenicity. Genotoxicity refers to the deleterious effect of a chemical compound or a physical event on the genetic material; such genotoxic events are considered hallmarks of cancer risk. The numerous genome maintenance mechanisms of the cell and may not lead to cancer. The long-term safety evaluation is probably better investigated through carcinogenicity, which denotes the capacity of a chemical substance or a mixture of chemical substances to induce cancer or increase its incidence. Furthermore, cytotoxicity, genotoxicity, mutagenicity, carcinogenicity and reproductive and developmental toxicity studies should be carried out in order to support the safe and sound use of herbals, particularly if there is a suspicion of genotoxicity. The recent development of innovative carcinogenicity testing strategies, especially based on functional genomics, are debated and evaluated for possible application to the precocious evaluation of herbal products' long-term safety.

Keywords: Genotoxocity, Genomics, Cytotoxic, Cancer, Herbal

SP-03

Development, Optimization And Evaluation Of Lipospheres Of Celecoxib

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Abstract:

The objective of this research was to formulate the Celecoxib to provide controlled release and minimizing severe gastrointestinal side effects on long term administration. Celecoxib was entrapped with lipids like Cetostearyl alcohol and ethyl oleate using melt dispersion technique. Critical parameters influencing entrapment efficiency and drug release were optimized by employing the central composite design. Entrapment efficiency of up to 73.63% was obtained for the optimized formulation on increasing ethyl oleate upto 20% in the lipid carrier. In-vitro dissolution data best fitted the Higuchi model, indicating diffusion controlled release from porous lipid matrices. Prolonged release was obtained from Cetostearyl alcohol-ethyl oleate lipospheres due to relatively hydrophobic matrix formed by Cetostearyl alcohol. The prepared Lipospheres showed an average particle size of 1436 nm with polydispersity index as 0.396. DSC and XRD studies indicated disappearance of crystalline peaks of the encapsulated drug.

SP-04

Formulation of Epalrestat Microsphere as modified release drug delivery system for management of Diabetic Mellitus

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Abstract

To study the formulation and evaluation of Epalrestat microsphere. Epalrestat is oral anti diabetic agent. Under hyperalergic condition it reduces intracellular sorbitol accumulation which has been implicated in pathogenesis of late onset complications of diabetic mellitus. Epalrestat is carboxylic acid derivative which inhibits aldose reductase an enzyme of (polyol) pathway. It is found most effective for patients with less severe diabetes mellitus. Long term effect is well tolerated and can effectively delay the progression of diabetic neuropathy. Natural sources reported to inhibit aldose reductase include spinach, cumin, fennel seeds, lemon and curry leaves. Molecular formula of epalrestat is C15H13NO3S2 and chemical name of epalrestat is 3-Thiazolidineaceticacid,5-(2-methyl-3-phenyl-2-propenylidine)-4-oxo-2-thioxo-(E,E)-5-[(1Z,2E)-2 methyl-3-phenylpropenylidene)-4-oxo-2-thioxo-3-thiazolidineaceticacid.

SP-05

Development Of Multi-Unit Alginate System: Effect Of Additives On Indomethacin Release

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Abstract

In recent years, considerable attention has been focused on the development of novel drug delivery systems (NDDS). In the form of NDDS, an existing drug molecule can get a 'new life,' thereby, increasing its market value, competitiveness, and patent life. Approximately 40% of new drug candidates have poor water solubility and oral delivery of such drugs is frequently associated with low bioavailability. Indomethacin (IND) is a non-steroidal drug having anti-inflammatory, antipyretic and analgesic properties. IND shows low oral bioavailability due to poor dissolution of the drug in the fluids of the GI tract. The attempt was made to formulate SR dosage form. The aim of this study was to Microencapsulate and evaluate the Indomethacin (NSAIDs) by ionotropic gelation technique by using sodium alginate as hydrophilic carrier in various proportions. The combinations of polymers like Sodium alginate, Banana starch, pectin, guar gum were used for formulating Indomethacin microspheres. FTIR analysis suggested that there were no reactions between the Indomethacin and the polymers. The results obtained in this work suggested that a multi-unit alginate drug delivery system can be successfully designed by the use of natural polymers.

SP-06

Formulation and evaluation of buccal patches of Venlafaxine hydrochloride

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Abstract

Buccal delivery is one such system which has attracted much attention in the recent years. Moreover, it offers easy administration and increases patient compliance. The main limitation to the therapeutic effectiveness of Venlafaxine hydrochloride is its poor bioavailability (40-45%) and short biological half life i.e. 5hour necessitating the administration, two or three times daily so as to maintain adequate plasma levels of the drug. This necessitates the development of a sustained delivery system which permits direct access of the active constituent to the systemic circulation thereby bypassing first-pass metabolism. The purpose of the present experimental study was to design, develop and evaluate the buccal patch formulations of Venlafaxine hydrochloride using different concentration of hydrophilic polymer and hydrophobic polymer. Venlafaxine hydrochloride has antidepressant activity having a high first pass metabolism and only 40 % oral bioavailability. An Optimized buccal patch formulations of Venlafaxine hydrochloride were prepared by t solvent casting method. Eudragit RS-100 was used as film forming polymer while HPMC E-15 was incorporated to provide the patches with bioadhesive properties and to modify the rate of drug release. The study suggested that buccal patch significantly enhanced bioavailability of Venlafaxine hydrochloride and modified the drug release.

SP-07

Stability-indicating HPLC method for estimation of mebeverine HCl: characterization of its major degradation product and assessment of its in-silico profiling to ascertain pharmacokinetic, therapeutic and toxicological properties

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Abstract

The aim of the present work was to develop an accurate, precise and specific stability-indicating method for the estimation of mebeverine HCl (MBV), to enrich and characterize the major degradation product (FDP) and to assess the pharmacokinetic, therapeutic and toxicological abilities of it. The drug was subjected to forced degradation and the formed degradation products were separated and resolved using optimized and validated HPLC method. The isolated FDP was subjected to ^{1}H-NMR studies for structural conformation and further analyzed for the drug-likeness properties using Lipinski's rule of five, ADME/Tox properties by AdmetSAR tool and pharmacological activities by PASS server, respectively. The FDP of MBV shows moderate drug-likeness with acceptable ADME/Tox properties and numerous biological activities. In the present work, pharmaceutical analysis was bridged with drug discovery using computational approach. This can be helpful in identifying new lead compounds with potentially low toxicological effects.

SP-08

Development and validation of stability indicating HPLC method for estimation of Duloxetine HCl incapsule

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Abstract

A simple, accurate, precise and specific stability indicating HPLC method was developed and validated for the estimation of Duloxetine HCl (DLX) in bulk andtablets. DLX and its formed degradation products were successfully separated and resolved on Waters SunFire C 18 column (250 × 4.6 mm, 5 µ) using methanol: 20 mM potassium phosphate buffer pH 3.0 (70:30% v/v) as mobile phase at a constant flow rate of 1 mL/min. All eluents were detected using PDA detector set at 289 nm. The drug was found to degrade significantly in acidic, alkaline as well as in oxidative conditions. The drug was retained at 3.62 min. Validation experiments proved good accuracy and precision of the method. The assay of the tablet was in good agreement with the nominal amount of DLX.

SP-09

Aloe induced toxicity: Phytochemistry and Pharmacodynamics, Toxicokinetics and Case study

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Abstract:

Toxicity is defined as ; the capacity of a substance to produce injury to a living organism and toxicology as ;the study of the adverse effects of chemicals on living organisms. Acute toxicity and chronic toxicity can lead to life-threatening conditions, therefore the concern for toxicology studies has increased. Many concerns have been raised regarding the safety of herbal products and unwanted side effects, particularly hepatotoxicity, genotoxicity, cardiotoxicity, nephrotoxicity, have been reported for many herbal products. Herbal remedies have nature as an origin and thus are considered to be the best choice as alternative medicine all around the world. People be sure of herbal drugs, owing synthetic drug has side effects and high prices, in both developed and developing countries. Among healthy individuals, the use and popularity of herbal medicines and remedies are increasing gradually. Aloe Vera is considered to be the safe herbal remedies or as a folk medicine all over the world. Aloe Vera is widely used, as an OTC drug, as a supplement, and in cosmetics. Many case reports, in vitro, and in vivo studies of Aloe Vera induced hepatotoxicity have been reported. Cases of Aloe Vera related acute and chronic hepatitis, even in healthy individuals, are likely to be reported by clinicians. This paper emphasizes the importance of considering Aloe Vera Product (OTC drugs) as causative agents in hepatotoxicity. However, as a result of our experience and a literature review, we recommend detail controlled toxicological studies and pharmacovigilance should be carried out before marketing and consumption Vera products like any other synthetic drugs.

Keywords: toxicity: hepatotoxicity, laxative, Aloe Vera, median lethal dose, herbal remedies.

SP-10

Antiviral activity of Ocimum sanctum(Tulsi)

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Abstract:

Viral diseases are the major causes of devastations in the human history and animal farming worldwide. Bacterial and parasitic diseases have been controlled by use of effective disinfectants, antibiotics and antiparasitic agents. Since, viruses are intracellular and any intervention will affect the cellular metabolism of the host, development of antiviral drugs is a challenge. Drugs acting on microbial agents have been mentioned in Ayurvedic texts as Krimighna Dravyas. Tulsi, Ocimum sanctum is one of the most important medicinal plants mentioned in Ayurvedic literature for its medicinal and spiritual properties. The plant is an highly celebrated medicinal plant .It is recommended as Mother medicine of nature. Tulsi leaves extract also inhibit the growth of pathogens which is responsible for spoilage of fresh produce. Tulsi extract shows inhibitory effects against pathogens such as Staphylococcus aureus, Pseudomonas aeruginosa, E. coli, Klebsiella pneumonia, Proteus mirabilis, Salmonella typhimurium, Salmonellatyphae, Shigella dysentriae, Bacillus pumilus, Aspergillus spp., Candida albican and Penicellium spp. Essential oil and extract of Tulsi leaves have antiviral properties that's why it is used extensively in medical practices. It is an excellent antimicrobial agent so it is used in food products as an ingredient as well as medicine.

Keywords: Tulsi, Ocimum sanctum, Antiviral Activity, Orthomyxovirus, Paramyxovirus.

SP-11

Phytochemical screening of plant *Casuarina equisetifolia*Stem-inner Bark

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Abstract

Today, approximately 80%-90% of immunosuppressive, antimicrobial, cardiovascular, and anticancer drugs are of plant inception. Nowadays, humans cannot inhabit well without medicament and treatment, particularly in the advanced economies. The plant *Casuarina equisetifolia* is amaranthine tree; generally, attain peak up to 50 m, instigate into India.*Casuarina equisetifolia*belongs to Casurinaceae family. It is civilizedin some parts of West Bengal andon Coastal regions of Andaman's preposition Gujarat to Orissa.It contains many vital metabolites includes glycosides, saponins, Phenolics, flavonoids, steroids, gum, reducingsugars,carbohydrates, alkaloids, proteins and triterpenoids.The plant is also famous due to presence of tannins content and proline addition to being a nitrogen fixing. In this plant, actinomycetes are present and which helps to fix nitrogen in the roots, which are responsible for different pharmacological activities such as analgesic, anti-inflammatory, anti-pyretic, anti-diarrheal, Spasmolytic, hypoglycaemic. In this work phytochemical screening of *Casuarina equisetifolia* was investigated.

SP-12

Seaweed As A Skin Care & Enormous Human Health Benefits

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Abstract:

The Seaweed play major role in human health & skin care cosmetic product Modern lifestyles have developed new attention on appearance and personal care which attract a huge number of consumers towards cosmetic products. seaweeds possess specific biological properties that make them potential ingredients of many industrial applications such as func-tional foods, pharmaceuticals and cosmeceuticals .The another Benefit of Seaweeds may have an important role in modulating chronic disease. Seaweeds are a novel source of compounds with potential to be exploited in human health applications. It contains several compounds with antioxidative properties (phlorotannins, pigments, tocopherols, and polysaccharides).Seaweed in human health benefit used as antimicrobial,improve the blood sugar level and have antiviral property. The seaweeds will improve access to the seaweed based natural products specially the ability to incorporate these functional properties with its various applications.

ICTM 2021

Abstract of Poster Presentation

Students Category

SPO-01 to SPO-14

SPO-01

Traditional medicines sources and clinical applications (Cinchona)

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Abstract

Traditional medicines have occupied a huge space in our life because it helps us to treat different life threatening diseases with less side effects. As we all know that 56 percent geographical area of India is covered by a plant life, hence itself it is a treasure of crude drugs. There are many examples of crude drugs like Curcuma, Margosa, Basil, Vasaka, Vinca, Cinchona, etc. In this pandemic of Covid-19 several countries are using Hydoxychloroquine to save many lives, which is obtain from a very famous crude drug i.e Cinchona. It is a dried bark of cultivated trees of *Cinchona officinalis* belonging to family Rubiaceae. Its chemical constituents are quinine, quinidine, cinchonine, and cinchonidine. It is used as antimalerial, antipyretic, antiasthamatic, cardiodepressant, oxitosics, and in neuralgia.

SPO-02

Transdermal drug delivery by ethosomes

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Abstract

In our five sense organs skin is the biggest organ which prevents entry of different foreign particles into the systemic circulation. For our body drug is also considered as a foreign particle hence it is difficult task to reach the drug into systemic circulation through the transdermal route without invasion. But with the help of Ethosome formulation it becomes very easy to transfer the drug into systemic circulation through the skin. Ethosomes are the bilayer lipid vesicles which allow the transfer of drug into the deep skin layers and into the blood. It contains large amount of ethanol. Penetration enhancers are incorporated into it to enhance the rate of penetration. We can incorporate all types of drug into the ethosome i.e, lipophilic, hydrophilic, and amphiphilic and this property makes it unique from other dosage forms.

SPO-03

Natural Products as A Source Of Eco-friendly Immunity Boosting Compounds

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Abstract:

The immune system is one of nature‘s most fascinating invention, it’s an amazing protection mechanism designed to defend us against millions of bacteria , viruses , fungi , toxins and parasites . It can give rise to the a large number of chronic illnesses which conventional medicine has not adequately addressed. The clinical uses of chemically synthesized immune-stimulant and suppressant are either cytotoxic or even caused fatalities. Plant mediated drugs are used by the people to treat various disease because of it’s less× toxicity , low cost and better conjugation with the biological system. Several plant species or plant formulations have been frequently used in traditional× medicine to treat disorders of the immune system. Also help to boost immunity.

SPO-04

Medicinal Plant Use in The Treatment Of HIV

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Abstract

Since the beginning of the epidemic , human immunodeficiency virus (HIV) has infected around 70 million people worldwide, most of whom reside is sub-Saharan Africa. There have been very promising developments in the treatment of HIV with anti-retroviral drug cocktails. However, drug resistance to anti-HIV drugs is emerging , and many people infected with HIV have adverse reactions or do not have ready access to currently available HIV chemotherapies. Thus, there is a need to discover new anti-HIV agents to supplement our current arsenal of anti-HIV drugs and to provide therapeutic options for populations with limited resources or access to currently efficacious chemotherapies.

Plant-derived natural products continue to serve as a reservoir for the discovery of new medicines, including anti-HIV agents. This review presents a survey of plants that have shown anti-HIV activity, both in vitro and in vivo.

Keywords:- Acquired Immune Deficiency Syndrome ,Phytochemistry , Pharmacognosy ,Antiviral ,Drug discovery.

SPO-05

Pharmacological Review on *Ficus glomerata*

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Abstract:

An excess production or decreased scavenging of reactive oxygen species (ROS) has been implicated in the pathogenesis of diverse metabolic disorders such as diabetes, cancer or atherosclerosis and neurodegeneration. Diabetes mellitus is the most common endocrine disorder that impairs glucose homeostasis resulting in severe diabetic complications including retinopathy, angiopathy, nephropathy, and neuropathy and causing neurological disorders due to perturbation in utilization of glucose. In the present study diabetes was induced in albino rat models with alloxan monohydrate.

The *Ficus glomerata* which is extensively used in the preparation of traditional medications to treat various metabolic diseases. The use of F.glomerata leaf gall extracts as a natural antioxidant and justify its ethno botanical use. Further, the results of antioxidants properties encourage the use of *F.glomerata* leaf gall extracts for medicinal health, functional food and nutraceuticals applications. The investigation was designed to study effects of powdered drug *Ficus glomerata* fruits on blood glucose levels in groups of normal and alloxan – diabetic rabbits. In normal groups, administration of 1, 2, 3 and 4g/kg body weight of *Ficus glomerata* pulv lowered the blood glucose levels significantly.

SPO-06

Pharmacogonostical Study Of *Benincasa Hispida* Plant – Review

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Abstract:

Benincasa hispida is a well-known plant and is cultivated throughout the plains of India and on the hills up to 1200 meter altitude. Used for nutritional and medicinal properties especially in Asian countries.The pharmacological studies revealed that the plant exerted many pharmacological activities .This review was designed to highlight the chemical constituents and pharmacological effects of *Benincasa hispida.*

SPO-07

Martyniaannua: a Review

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Abstract:

*Martyniaannua*belonging to family *Martyniaceae*. It is native to tropical and sub-tropical regions of Mexico, Central America, Burma, West Pakistan and naturalized throughout India it is a traditional medicinal plant used to heal wounds and treat cancer, itching, respiratory tract, and skin diseases. A wide range of chemical compounds including arachidic acid, linoleic acid, palmitic acid, palmitic acid, gentisic acid, stearic acid, have been isolated from annua.For centuries, various extracts of M. annua plant parts such as leaves, roots, stems, fruits, and seeds have been used to treat tuberculosis, skin infections, etc. The plant M. annua has different pharmacological activities such as analgesic and antipyretic activity, antibacterial activity, anticonvulsant activity.This review article mainly includes the information regarding botany, phytochemistry, and pharmacological activity of the *Martyniaannua.*

Keywords: *Martyniaannua*, phytochemistry, pharmacological activities, antibacterial, antidiabetic.

SPO-08

Phytochemical Screening of *Ziziphus mauritiana* Plant

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Abstract

Ziziphus mauritiana have been used traditionally used in folk medicines, food and as dietary supplement. *Ziziphus mauritiana* belongs to Rhamnaceae family, is evergreen shrub which has spines. Fruit, bark and leaves of plant is potential to give various medicinal properties. It possesses various pharmacological activities such as anti-inflammatory, anti-microbial, anti-oxidant, skin rejuvenating, anti-bacterial, anti-diarrheal, anti-ulcer, anti-tussive, expectorant, wound-healing, hepatoprotective, hypoglycaemic, nephroprotective, immunomodulatory, anti-cancer activities. The action on various ailments is due to presence of the phytoconstituents present in plant. It contains phytoconstituents like triterpenes, cyclopeptide alkaloids, flavonoids, tannins, terpenoids, saponins, phenolic acids, fatty acids, etc. This study performed the phytochemical screening including qualitative and quantitative analysis of plant *Ziziphus mauritiana* using various tests and method.

SPO-09

Pharmacognostical, phytochemical and pharmacological screening of the plant *Plumbago zeylanica*.

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Abstract:

Plumbago zeylanica is an important medicinal plant is commonly known chitraka, belongs to family plumbaginaceae. It is originated throughout the tropical and subtropical countries of the world. The main origination in Bengal, Uttar Pradesh, South India and Sri Lanka, in moist places. Roots part of plant is traditionally used for the treatment of various diseases. *Plumbago zeylanica*is widely used for its therapeutic value. It contains several chemical constituents like napthoquinones, flavonoids, alkaloids, glycosides, steroids, tri-terpenoids, tannins, fixed oils, fats, proteins, etc. Plumbagin is most important bioactive compounds. It having wide range of pharmaceutical activities such as anti-cancer,anti-fertility,anti-inflammatory, anti-diabetic, anti-malarial, anti-microbial, etc. Traditionally it is used for the Cough, asthma, stimulant, digesting, expectorant, laxative, abortifacient etc. The plant also used for curing calculi, internal abscesses, seminal weakness,and vaginal discharges. The review contains the Pharmacognostical, phytochemical as well as pharmacological screening of the plant *Plumbago zeylanica*.

SPO-10

Herbal Abortifacient Drugs: A Review

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Abstract:

Unwanted pregnancy is one of the major fertility as well as social issues of all times. Unwanted and unexpected pregnancies are often gotten rid of by painful, costly and embarrassing surgical operations. Certain natural herbs possess abortifacient properties that may help one to get rid of their undesired pregnancy without any sort of surgery. Contraception means to prevent pregnancy and Abortion means ending of pregnancy. Because of less side effects of herbal drugs and natural herbs possess miraculous powers to compete with surgical abortion. The aim of this review is to study the abortifacient activity of herbal drugs.

Keywords- Abortion, Need of abortion, Abortifacient activity, Herbal abortifacient drugs

SPO-11

Pharmacognostical, Phytochemical And Pharmacological Screenningn Of *Lantana Camara*-A Review

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Abstract:

The review was designed to investigate the traditional uses, chemical constituents and pharmacological effects of *Lantana camara*. In the current review, databases including Web Science, Pub Med, were searched to investigate the chemical constituents and pharmacological effects of *Lantana camara.*

The plant contained alkaloids, glycosides, steroids, saponins, flavanoids, coumarins, tannins, carbohydrates, hydroxyanthraquinones, anthraquinone glycosides, proteins, phytosteroids, fixed oils, fats, and triterpinoids. Previous pharmacological studies revealed that *Lantana camara* possessed antimicrobial, antiparasitic, anxiolytic, gastrointestinal, hypoglycemic, cardiovascular, antioxidant, anticancer, anti-inflammatory, analgesic, wound healing, antiurolithiatic, hepatoprotective, reproductive, anti-hemorrhoidaletc activity and many other effect. *Lantana camara* represents a promising medicinal plant with a wide range of pharmacological activities that could be utilized in several medical applications because of its effectiveness and safety.

SPO-12

Phytochemical and Pharmacological Review of *Mundulea seriacea*

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Abstract

The configuration of the non-polar extract removes of a leaves, Stem bark and twigs of *Mundulea sericea* (Fabaceae) were studied using GC-MS. Above Five Eight and eleven portion were identified from the various leaves, twigs and stem bark extract respectively. Malaria is one of the dangerous infectious diseases and is successfully treated with medicinal plants in natural region. This work also carry out with the aim to look into the phytochemical protect and anti-inflammatory activities of Mundulea plants seeds extract using two normalize leech strains. The in vitro anti-inflammatory activity of the plant extracts is also calculate in the isotopic micro-test.The phytochemical mixture along with total phenolic and flavonoid content of the extract at different concentrations were also displayed. Bioassay of intoxicant crude extract of *Mundulea sericea*. (Willd.) A Chev. stated that a balance with the leaf powder for their insecticidal potential againstCallosobruchus maculatus on stored cowpea using actellic as astandard.

SPO-13

Phytochemistry And Pharmacological Study on Calotropis Gigantea L. -A Review

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Abstract

Herbals plants are effective source of traditional and modern medicines, useful for primary health care. The active metabolites like Phytochemicals from the medicinal plants were under exploration for the development of novel and biodegradable effective drugs as an alternative to the ineffective contemporary medicine. *Calotropis gigante*a has great medicinal importance to treat fever, indigestion, cold, cough, cardio tonic, asthma, scabies etc.*Calotropis gigantea* (Asclepiadaceae) is a glabrous or hoary, laticiferous shrubs or small trees, commonly known as "the swallow-wort or milkweed". *Calotropis* is used as a traditional medicinal plant. *Calotropis gigantea* contain chemical constituents are cardenolides, flavonoids, terpenes, pregnanes and a nonprotein amino acid. This review gives a brief idea about its phytochemistry and pharmacological activity.

SPO-14

In vitro Drug-Drug Interaction Studies of Gliclazide With Levofloxacin by Using HPLC: Guidelines for Co-prescription Drugs

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Abstract

A simple, accurate reversed-phase high-performance liquid chromatography method was developed and validated for simultaneous determination of gliclazide (GLZ) and fluoroquinolone antibacterial levofloxacin (LVO). The method was developed by using a stainless-steel analytical column, C18 (250,4.6 mm,5µm). The system was operated using a mobile phase consisting of methanol and phosphate buffer (pH 3.0) at a flow rate of 0.8mL min^{-1} with *ultraviolet* detection monitored at wavelength 228 nm. The above method was validated using *ICH* analytical method validation guidelines. Utilizing HPLC techniques, an assay was intended to determine in vitro effects of levofloxacin on sulphonyl urea an anti-diabetic gliclazide. Obtained results were further verified with UV spectrophotometric method. Availability of gliclazide was reduced in the presence of levofloxacin. This in-vitro analyses confirm the co-administartion of gliclazide and levofloxacin and may serve the foundation for designing further in vivo studies.

SPO-15

A RP-HPLC Method For The Simultaneous determination Of Gliclazide And levofloxacin: Guidelines For Co-Prescription Drugs

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Abstract

To develop accurate, fast, simple and precise reversed-phase high-pressure liquid chromatography method for simultaneous determination of the binary mixture of gliclazide and levofloxacin. The method was developed by using a stainless-steel analytical column, C18 (250,4.6 mm,5µm). The system was operated using a mobile phase consisting of methanol and phosphate buffer (pH 3.0) at a flow rate of 1.0 mL min^{-1} with *ultraviolet* detection monitored at wavelength 228 nm.An injection volume of 20 µL was used for both gliclazide and levofloxacin HCl. The above method was validated using *ICH* analytical method validation guidelines. Obtained results were further verified with UV spectrophotometric method. Availability of gliclazide was reduced in the presence of levofloxacin.

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AFO-01 to AFO -05

AFO-01

Effects of Palm Kernel Oil, Olive Oil, Crude Oil and Honey on Renal Function of Male Albino Rats

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ABSTRACT

This study investigated the effects of palm kernel oil, olive oil, crude oil and honey on renal function of male albino rats. These chemical substances are used in traditional medicine for various purposes, including as antidote for poisons. **Methods**: Thirty healthy male albino rats were purchased and used in this research study. The animals were randomly placed into five groups (n=6). The animals were administered the corresponding chemical substances for a period of three weeks. They were later sacrificed and their blood samples and kidneys collected for biochemical and histological analysis respectively. **Results**: Urea increased in all the groups administered the different chemical substances compared to the control. The increase is statistically significant ($p<0.05$) in groups 4 and 5, and non-significant ($p>0.05$) in groups 2 and 3 when compared to the control (group 1). Creatinine increased non-significantly ($p>0.05$) in all the test groups compared to the control. Sodium decreased non-significantly ($p>0.05$) in group 2, but increased non-significantly ($p>0.05$) in groups 3, 4 and 5 compared to the control. Potassium increased non-significantly ($p>0.05$) in group 2, but increased significantly ($p<0.05$) in groups 3, 4 and 5, while chloride increased significantly ($p<0.05$) in groups 2, 3 and 5 and non-significantly ($p>0.05$) in group 4 compared to the control. Photomicrographs of histoarchitectural state of the renal tissues showed some forms of alterations in some parts of the tissues of the test animals when compared with the control. **Conclusion:** This study showed that long term

administration of palm kernel oil, olive oil, crude oil and honey, as used in this study could cause certain alteration to renal functions. The order of renal intoxication caused by the administration of the chemical substances is crude oil > honey > olive oil > palm kernel oil.

Keywords: Crude oil, histology, honey, olive oil, palm kernel oil, renal function.

AFO-02

Comparative Study of Effect of Sprouting on Phytochemical properties in White *Sorghum bicolor* and *Pennisetumglaucum* used for Therapeutic purposes in Traditional Medicine

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Abstract

The use of plant-derived foods (cereals) in the prevention, treatment and management of metabolic diseases especially diabetes has gained prominence; this has been associated with their physicochemical properties. This study was conducted to compare the antinutrient composition of the white *Sorghum bicolor* and *Pennisetumglaucum* (sprouted and unsprouted). The result showed that the level of antinutritional factors in sprouted white Sorghum bicolor and *Pennisetumglaucum*were reduced after sprouting as follows: Tannin-UWSB(4.14), SWSB (3.61), UPG (4.00), SPG (3.90) Saponnin- UWSB (2.50) SWSB (0.80) UPG (2.30) SPG (1.82) Flavonoids- UWSB (0.80) SWSB (0.35), UPG (2.30) SPG (1.82), Phenolies- UUWSB (1.50) SWSB (2.0), UPG (1.20) SPG (1.30) Alkanoids-UWSB (1.90) SWSB (0.60) UPG (1.80) SPG (1.30) Glycoside-UWSB(2.30) SWSB(2.10) UPG (2.00) SPG (1.30) Oxylate- UWSB (3.00) SWSB (1.60) UPG (2.70) SPG (2.65) Phylate- UWSB (17.5) SWSB (8.9) UPG (16.5) SPG (15.5 The overall data results of the antinutrients showed that most of the antinutritional factors were concentrated in testa and even the low levels recorded for all other anatomical part were further reduced by sprouting except alkaloids which increased in the sprouted seed flour. This research study shows that sprouting processes is a means to address myriad interactions through activation of endogenous enzymes such as α-amylase, pollunase, phytase and other glucosidase. These enzymes degrade antinutritional factors and break complex macronutrients to their simple and more digestible forms. Which are particularly beneficial for diabetics and reducing chances

of developing type two diabetes because of the high hypoglycemic effect and hypolipidemicproperty.

AFO-03

The Effect of Papaya Flower Extract (Carica Papaya L.) Towards Triglyceride Levels and Lee Index on the Rats (Rattus Norvegicus) Male Sprague Dawley Strains Given a High Fat Diet

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Abstract

Background of Study: The incidence of cardiovascular disease in Indonesia shew a high number where the risk factor was hyperlipidemia. Hyperlipidemia was characterized by one of them by increasing triglyceride levels. Lipids deposited in adipose tissue would cause an increase in the Lee's index. Papaya flowers contained flavonoids and tannins which played a role in antihyperlipidemia by inhibiting the activity of the enzyme HMG CoA reductase.

Purpose of Study: To determine the effect of papaya flower extract (Carica papaya L.) on triglyceride levels and Lee's index on a high-fat diet.

Method of Study: The results of the Paired T-test showed that there was a significant increase in triglyceride levels and Lee's index ($p < 0,05$) after being given a high-fat diet in all treatment groups. After being given papaya flower extract, there was a significant decrease in triglyceride levels in the P2 ($p = 0,031$) and P3 (0,011) groups and a significant increase in the Lee's index in the P1 group.

Conclusion: There was an effect of giving a high-fat diet on increasing triglyceride levels and the lee index. There was an effect of giving papaya flower extract on triglyceride levels and there is no effect on the Lee's index.

Keywords: *Papaya flower extract, high fat diet, Lee's index, triglycerides.*

AFO-04

The Difference of Fiber Intake on Central and Non-Central Obesity in Medical Doctor Students of Medical Faculty of Malahayati University in 2018

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ABSTRACT:

Background: Obesity was a global epidemiological problem that became a serious threat to the health of the world community. Fiber intake of less than 30 grams could cause obesity.

Research Purposes: To study about the facts of central and noncentral nutritional intake in medical doctor students of Medical Doctor Faculty of Malahayati University in 2018.

Methods: This research was a quantitative study used analytics and cross sectional method, and also the sampling data used in this study was purposive sampling. The data analysis used Chi-Square test.

Result: The results of the analysis showed that the proportion of respondents with central obesity in this study were 63 (61.8%), and the proportion of respondents with non-central obesity was 39 (38.2%). While the proportion of respondents with fiber intake of <30 grams was 21 people (20.6%), and the proportion of respondents with 30 grams of fiber intake was 81 people (79.4%). The results of the analysis there is the difference between fiber intake on ocassion were obtained p = 0.024, and OR of 3.4 (95% CI: 1.2 - 9.3).

Conclusion: There was significant difference between the amount of fiber intake and the incidence of obesity.

Keywords: Fiber Intake, Central Obesity, Non-Central Obesity.

AFO-05

Professional Ethics And Professional Conduct As A Means Of Quality Assurance In Yorùbátraditional Healthcare System

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ABSTRACT

The Yorùbá of South Western Nigeria are one of the major ethnic nationalities of Nigeria . The Yoruba people have a well-organized traditional healthcare system. The practitioners are made to undergo years of rigorous training after which they are graduated and certified as qualified to practice healthcare delivery among the Yorùbá. Each group of practitioners have ethics and codes of conduct which they must observe in other to continue as practitioners. Those who violate such codes of practice are sanctioned. This paper examines some of these codes of practice and the professional ethics put in place with a view to bringing out the importance of such professional ethics and professional code as a way of standardizing the practice of traditional healthcare among the Yorùbá, and as a means of protecting the clients against the charlatans and the quacks who may want to infiltrate the ranks of the professionals. This study concludes that the establishment of a set of professional ethics and professional conducts goes a long way in putting in place a system of quality assurance in the traditional healthcare system of the Yorùbá people of South Western Nigeria.

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