ACHARYA & BM REDDY COLLEGE OF PHARMACY

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FORMULARIUM

Nurturing Aspirations Supporting Growth

2021

Volume - 3

WE CARE with passion

Wisdom • Ethical • Credibility with Creativity • Altruism • Responsibility • Excellence

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Dr. Maneesh Paul S
Campus Director- Acharya Institutes

FROM THE EDITOR'S DESK

We are delighted to bring forward the third volume of our college magazine 'FORMULARIUM 2021'. It is a matter of pride that we are publishing the magazine amidst these testing times of CoViD-19, which has been raging for close to two years now.

Thanks to the immense support from our management and our principal, Formularium 2021 bears a special touch of blessings received from dignitaries in the fields of pharmacy and education. It is encouraging to see the increase in contributions, content and diversity of content that this volume brings to the readers.

The motto of Acharya is 'Nurturing Aspirations and Supporting Growth' and true to its motto the aspirations of every stake holder is encouraged and supported. Our alumni too affirm this by sharing their experiences at their alma mater.

Exploring through the leaves of Formularium 2021 the reader will have the pleasure of seeing the energy of these zillennials for their contributions as authors and student editors. It is remarkable that our students meet the challenges of learning in different verticals. They are able to balance the imbibing of fundamentals as well as leaping into the vastness of advancements. With this initiative towards conceptualizing and writing original articles/artwork for the college magazine, may our students realize the way ahead towards creativity and innovation for paving the path towards a future yet to be realized.

We thank our management for the support extended towards the designing of Formularium 2021. We are thankful to each and every one who directly or indirectly facilitated the publication of this volume and also to all the readers for keeping our spirit fuelled. Looking forward to continued support and praying for the welfare of the world.

Warm Regards
Dr. BLR Madhavi

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August 09, 2021

MESSAGE

I am delighted to write this message for the "FORMULARIUM 2021" College Magazine being published by Acharya & B M Reddy college of Pharmacy, Bangalore.

On this occasion, I congratulate the Principal, Faculty, staff and students for bringing out "FORMULARIUM 2021" and convey my good wishes and hope that this edition of the college magazine would be meaningful, enjoyable and memorable.

With best wishes.

(Dr. B Suresh)
Pro-Chancellor

MESSAGE FROM THE DIRECTOR, NAAC

ಪ್ರೊ. ಎಸ್.ಸಿ. ಶರ್ಮ
ನಿರ್ದೇಶಕರು
प्रो. एस.सी. शर्मा
निदेशक
Prof. S.C. Sharma
Director

ರಾಷ್ಟ್ರೀಯ ಮೌಲ್ಯೀಕರಣ ಮತ್ತು ಮಾನ್ಯತಾ ಪರಿಷತ್ತು
ವಿಶ್ವವಿದ್ಯಾಲಯ ಅನುದಾನ ಆಯೋಗದ ಸ್ವಾಯತ್ತ ಸಂಸ್ಥೆ
राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद
विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission

10-08-2021

MESSAGE

I am indeed glad to know that Acharya & BM Reddy College of Pharmacy, Bengaluru, Karnataka is in the process of bringing out College Annual Magazine " Formularium 2021" on the occasion its Annual Day Function.

The College Magazine Provides a forum for students to show case their academic, extracurricular and cultural activities. Such an endeavour to promote creativity and self expression among students is a laudable effort.

On this auspicious occasion, I have great pleasure in sending warm greetings and best wishes to the Principal, Staff and Students of the College.

S.C Sharma

(S.C. Sharma)

MESSAGE FROM THE VICE-CHANCELLOR, RGUHS

ರಾಜೀವ್ ಗಾಂಧಿ ಆರೋಗ್ಯ ವಿಜ್ಞಾನಗಳ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು
Rajiv Gandhi University of Health Sciences, Karnataka, Bengaluru

Prof. Dr. Jayakara S.M
BDS, MDS (Prosthodontics), D.Implant (France), FPFA
VICE-CHANCELLOR

Message

I am happy to learn that Acharya BM Reddy College of Pharmacy, Bengaluru, is publishing a college magazine – Formularium2021.

Pharmacy is an important and integral component of coordinated healthcare. In this context, constant and focused updating of the knowledge of pharmaceutical professionals is a necessary activity, which the mainstream colleges also have to undertake.

Publishing college magazines provides an opportunity to collate and share emerging information that is relevant for the professional performance. I am sure that the proposed college magazine–**Formularium 2021** – will fulfill this need.

I wish the college magazine a great success in spreading professional knowledge and competencies.

Dr. Jayakar SM
Vice Chancellor

MESSAGE FROM THE PRESIDENT, JMJ EDUCATIONAL SOCIETY

I am happy to know that Acharya & BM Reddy College of Pharmacy is bringing out their college magazine 'Formularium'. The students and staff have done an exemplary work regarding the scientific, non-scientific and artwork contributions in the magazine. It's heartening to note that the Magazine design too has been done by the students of Pharmacy. My best wishes for the entire team of ABMRCP and also expect them to continue this endeavour with betterment each year.

Regards
Sri. BM Reddy
President
JMJ Educational Society

MESSAGE FROM THE CAMPUS DIRECTOR, ACHARYA INSTITUTES

It gives me immense pleasure to write this note to the Institutional magazine Formularium of our Acharya & BM Reddy College of Pharmacy.

Pharmacy, being a unique science bridging the Clinicians and Pharma fraternity, it is important to understand the interplay between the disciplines within the field of Pharmacy, and also outside its field. Hence as you launch the Forumlarium I wish that it would be an inter-disciplinary magazine kindling the readers' acumen for precision medicine.

Wishing you all the very best.
Regards,
Dr. Maneesh Paul. S
Campus Director
Acharya Institutes

MESSAGE FROM THE PRINCIPAL

It gives me immense pleasure to bring to you our college magazine 'Formularium 2021'. We are grateful to Prof. B Suresh - President, Pharmacy Council of India,
Prof S C Sharma – Director, National Assessment and Accreditation Council and to Prof Dr Jayakara SM–Vice Chancellor, Rajiv Gandhi University of Health Sciences, Karnataka, for sending their good wishes to us.

We are greatly beholden to our patrons Sri. BM Reddy, President JMJ Education Society, Sri. Premnath Reddy, Founder Chairman, Acharya Institutes, Smt. Shalini Reddy, Executive Director, Acharya Institutes, Sri. Basani Krishna Kabir Reddy, Director, Acharya Institutes and Dr. Maneesh Paul, Campus Director, Acharya Institutes for their continued motivation and support.
Publication of Formularium is an achievement that showcases the talent of our students and serves to create talent by nurturing them to contribute to the columns of the magazine. The thinking of the students and their scientific / creative insight to pharmacy and beyond is amazing. The overall development of our students is what we ensure and one of the means is bringing out the college magazine.

The magazine design is a masterpiece on its own and done by our student team. The activities that have been conducted year long are the result of a committed student and faculty team supported by our management. I am proud of it. I congratulate the editorial team for bringing out Formularium 2021. Look forward to savouring Formularium 2022.

Regards,

Dr Amit Kumar Das,
Principal, Acharya & BM Reddy College of Pharmacy

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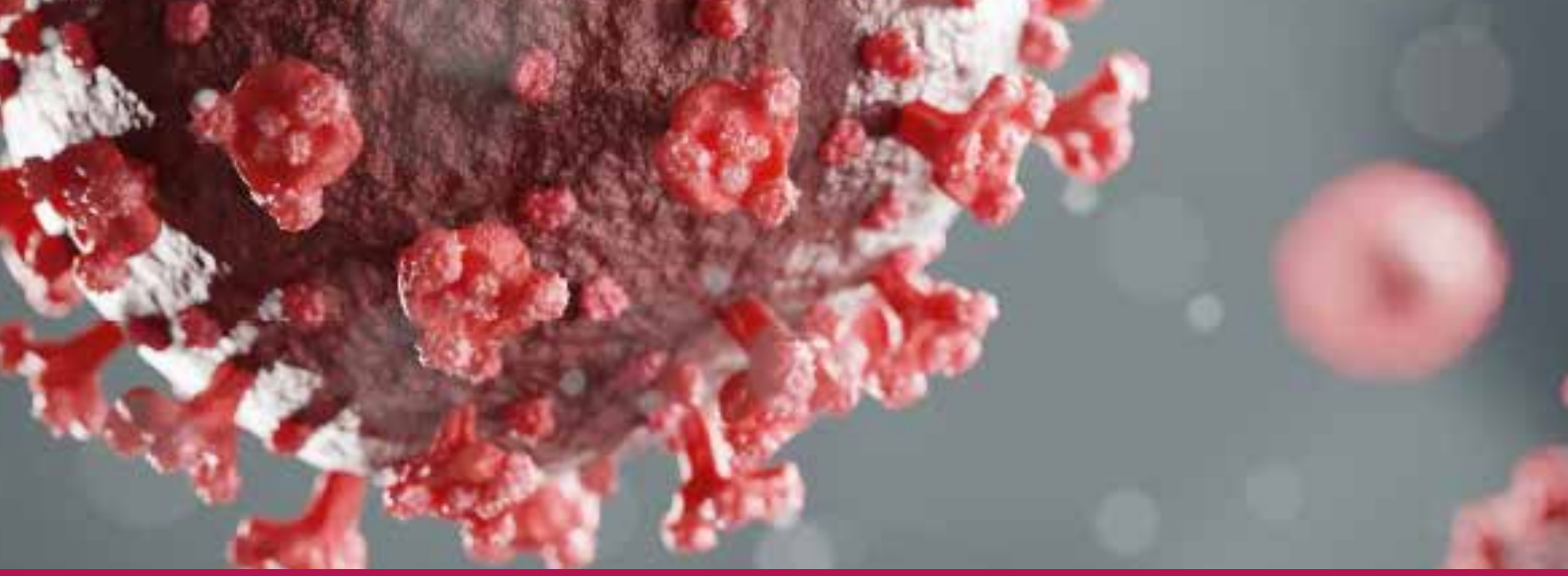

COVID-19: THE DISEASE SO FAR

COMPILED BY

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RAJA RAHUL S - B.PHARM VIII SEM

ABSTRACT

The New Global Health issues have affected the entire planet, with the discovery and the spread of the novel coronavirus 2019 (nCoV- 19). The virus was emerged in bats and was transmitted from person to person in December 2019 at Wuhan, Hubei Province, China, through an unknown intermediary species. The disease was spread through inhalation or contact with infected droplets, and it takes 2 to 7 days to develop. Fever, cough, sore throat, shortness of breath, aches and pains, headache, and loss of taste or smell are some of the most common symptoms. SARS-CoV-2 (COVID-19) is rapidly spreading around the world. The fatality rate is estimated to range from 84 to 88%. The virus can be detected in respiratory secretions using special molecular tests. The highest demand for the COVID-19 vaccines from the public has been accepted. The best vaccines have passed all the clinical trials, developed, evaluated, and manufactured by the most reputed industries. Now the vaccine has been marketed and ready to use. Residential isolation of suspected cases and those with minor illnesses, as well as stringent preventive services in hospitals, including touch and droplet precautions, are also part of the prevention strategy.

Introduction

The novel Coronavirus 2019 (nCoV-19) or the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is also called coronavirus by its sharp spike-like projections over its surface that gives a crown-like view under the electron microscope. Its diameter ranging from 60 nm to 140 nm is the enveloped positive sense of RNA virus[1]. The current population of the world is 7.9 billion as of May 2021[2]. The cases recorded all over the world are 157,984,797 and deaths due to the virus 3,290,902 and the cases recovered 135,457,452[3] till the date (8/05/2021). The present population of India is 1,391.99 million as of May 8, 2021[4]. The recorded cases in the country are 22,271,530 and deaths 242,029 and the patients recovered 18,290,133[5] as per the date (8/05/2021). So far, children have been affected rarely, with no deaths but it has been highly affected to the people aged 20 and above and in severe cases to death.

SARS-CoV-2 Variant Classification

Throughout the COVID-19 pandemic, mutations of SARS-CoV-2 have emerged and spread around the world. A variant is distinguished from other variants in circulation by one or more mutations. Throughout the pandemic, numerous variants of SARS-CoV-2 have been identified in the United States and around the world, as predicted.

Scientists compare genetic variations between viruses to distinguish variants and how they are linked to each other to educate local disease investigations and understand national trends.

In collaboration with the SARS-CoV-2 Interagency Group(SIG), the Centers for Disease Control and Prevention(CDC) developed a classification framework that distinguishes three types of SARS-CoV-2 variants.

Variants of Interest (VOI)

A variant with unique genetic markers that have been linked to changes in receptor binding, decreased neutralization by antibodies produced in response to previous infection or vaccination, decreased treatment efficacy, potential diagnostic effects, or predicted increase in transmissibility or disease severity. (Table1)

Table 1: Variants of Interest

Name	Spike protein substitutes	Strain	First detected
B.1.526	Spike: (L5F*), T95I, D253G, (S477N*), (E484K*), D614G, (A701V*)	20C/S:484K	United States (New York) - Nov 2020
B.1.526.1	Spike: D80G, Δ144, F157S, L452R, D614G[8], (T7911*), (T859N*), D950H	20C	United States (New York) - Oct 2020
B.1.525	Spike: A67V, Δ69/70, Δ144, E484K, D614G, Q677H, F888L	20A/S:484K	United Kingdom/Nigeria -Dec 2020
P.2	Spike: E484K, (F565L*), D614G, V1176F	20J	Brazil - Apr 2020
B.1.617	Spike: L452R, E484Q, D614G	20A	India - Feb 2021
B.1.617.1	Spike: (T95I), G142D, E154K, L452R, E484Q, D614G, P681R, Q1071H	20A/S:154K	India - Dec 2020
B.1.617.2	Spike: T19R, (G142D), Δ156, Δ157, R158G, L452R, T478K, D614G, P681R, D950N	20A/S;478K	India - Dec 2020
B.1.617.3	Spike: T19R, G142D, L452R, E484Q, D614G, P618R, D950N	20A	India - Oct 2020

Variants of Concern (VOC)

A variant for which there is evidence of increased transmissibility, more serious disease (e.g., increased hospitalizations or deaths), a substantial reduction in neutralization by antibodies produced during previous infection or vaccination, reduced efficacy of medications or vaccines, or diagnostic detection failures. (Table 2)

Table 2 : Variants of Concern

Name	Spike protein substitutes	Strain	First detected
B.1.1.7	Spike: Δ69/70, Δ144, (E484K*), (S494P*), N501Y, A570D, D614G, P681H, T7161, S982A, D1118H, (k1191N*)	20I/501Y.V1	UK
P.1	L18F, T20N, P26S, D138Y, R190S, K417T, E484K, N501Y, D614G, H655Y, T10271	20J/501Y.V3	Japan/Brazil
B.1.351	D80A, D215G, Δ241/242/243, K417N, E484K, N501Y, D614G, A701V	20H/501.V2	South Africa
B.1.427	L452R, D614G	20C/S:452R	United States-(California)
B.1.429	S13I, W152C, L452R, D614G	20C/S:452R	United States-(California)

Variants of High Consequence (VOHC)

A high-impact version has ample evidence that preventive steps or medical countermeasures (MCMs) are substantially less effective than previously existing variants.No mutants of too high consequence have been identified.

Diagnosis and Epidemiology:

All ages are at risk. The virus is spreading via minute droplets produced by symptomatic patients when coughing and sneezing, but it may also occur from asymptomatic people and before the incubation period. These contaminated droplets can travel 1–2 m and settle on substances. In favorable environmental conditions, the virus can survive on surfaces for days, but common disinfectants such as sodium hypochlorite, hydrogen peroxide, and others kill it in less than a minute. The most common form of a molecular test as of 2021 that detects the coronavirus is the reverse transcription-polymerase chain reaction (RT-PCR) test. Other methods used in molecular tests include CRISPR, isothermal nucleic acid amplification, digital polymerase chain reaction, microarray analysis, and Massive parallel sequencing. The only way to get rid of the virus is by the vaccine. (Table 3)

Development of Vaccine:

A SARS-CoV-2 vaccine that is safe can minimize morbidity and mortality while also allowing for a significant relaxation of physical distancing policies. However, the ability of a vaccine to avoid infection or disease is critically dependent on protecting the elderly, who are at the greatest risk of serious disease

Table 3: Authorized and approved vaccines

Vaccine name	Company or Organisation	Country	Vaccine type	Trial Phase	Dose
Comirnaty	Pfizer, BioNTech, Fosun Pharma	Multinational	mRNA-based vaccine	Phase 1/2/3	Intramuscular injection in two doses 21 days apart.
Moderna COVID-19 Vaccine	Moderna, BARDA, NIAID	US	mRNA-based vaccine	Phase 1/2/3	It is a two-dose mRNA vaccine taken 28 days apart.
COVID-19 Vaccine AstraZeneca	BARDA, OWS	UK	Adenovirus vaccine	Phase 1/2/3	It is administered in two doses, between 4-12 weeks apart.
Sputnik V	Gamaleya Research Institute, Acellena Contract Drug R&D	Russia	Recombinant adenovirus vaccine	Phase 1/2/3	It is administered in two doses 21 days apart.
The Janssen COVID-19 Vaccine	Johnson & Johnson	Netherlands & US	Non-replicating viral vector	Phase 1/2/3	It is administered in a single dose.
CoronaVac	Sinovac	China	Inactivated vaccine	Phase 1/2/3	Intramuscular injection in two doses 14-28 days apart
BBIBP-CorV (Sinopharm COVID-19)	Beijing Institute of Biological Product	China	Inactivated vaccine	Phase 1/2	Intramuscular administration
EpiVacCorona	Federal Budgetary Research Institution State Research Center of Virology and Biotechnology	Russia	Peptide vaccine	Phase 1/2	Administrated intramuscularly, twice, 21 days spaced apart, at a dose of 0.5 ml.
Convidicea	CanSino Biologics	China	Recombinant vaccine	Phase 1/2/3	It is a single-dose vaccine that is also being investigated in trials with two doses.
Covaxin	Bharat Biotech, ICMR; Ocugen	India	Inactivated vaccine	Phase 1/2/3	It is administrated intramuscularly in a 2-dose vaccination regimen given 28 days apart.

Prevention

Prevention is better than cure. Stopping the spread of viruses stops us through the advice provided by our local health authority.

- Hands should be washed often. To clean your hands, use soap and water or an alcohol-based hand rub.
- Keep your distance away from someone who is coughing or sneezing.
- When physical separation is not feasible, wear a mask.
- Avoid touching your eyes, nose, or mouth.
- When you cough or sneeze, cover your nose and mouth with your forearm or tissue.
- If you have a fever, a cough, or are having trouble breathing, seek medical attention.

Conclusion

The virus outbreak has been challenging for the economic, medical, and public health infrastructure of the earth. Many awareness and knowledge has been given by the society at every second by social media, TV channels, News, and announcements to get isolated and to be safe. It's the responsibility of each one to be followed and it's mandatory to get vaccinated as soon as possible.

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ABSTRACT

Cancer is one of the most leading causes of death worldwide. Over the years a number of conventional
cytotoxic approaches for neoplastic diseases have been developed. But due to their limited effectiveness in accordance with heterogeneity of tumor cells, there is continuous research to overcome it. Chimeric Antigen Receptor (CAR) immunotherapy is discovered which is one of the most promising modern approaches in the treatment of cancer. Here, we review the current development of the CART-Cell immunotherapy for blood cancer treatment of lymphoblastic leukemia and B-cell lymphoma. A developing method in treatment of solid tumors.

CAR-T-CELL IMMUNOTHERAPY

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INTRODUCTION

Cancer is a disease in which some of the body's cells grow uncontrollably and spread to other parts of the body. It can start to grow anywhere from the body. Cancerous tumors spread into, or invade, nearby tissues and can travel to distant places in the body to form new tumors (a process called metastasis). Cancerous tumors may also be called malignant tumors. Many cancers form solid tumors, but cancers of the blood, such as leukemias, generally do not. Benign tumors don't spread into or invade, nearby tissues. When it's removed, it doesn't grow back but malignant tumors sometimes grow back. The immune system is the system of the body which defends against the infection and cancer. It is made up of billions and billions of the cells that are classified into several different types.

Lymphocytes is a subtype of white blood cells (WBC) , it's the major portion of the immune system. It is classified into 3 types of lymphocytes ie., B lymphocytes (B cells) it makes the antibody to fight against the infection; T lymphocytes (T cells) it has several functions such as helping the B cells to make antibodies to fight against infection and also to killing the infected cells in the body directly; Natural killer cells also attacks the infected cells and eradicates the viruses. Immunotherapy is a type of treatment using the body's immune system to fight against the tumor cell. It improves the body's ability to detect and kill the cancer cells. It is a method or concept that is based on the immune cells or antibodies to recognise and kill the tumor cells. Antibodies can be synthesised in laboratories under aseptic conditions and given into the patients to treat the cancer.

CAR-T-Cell design

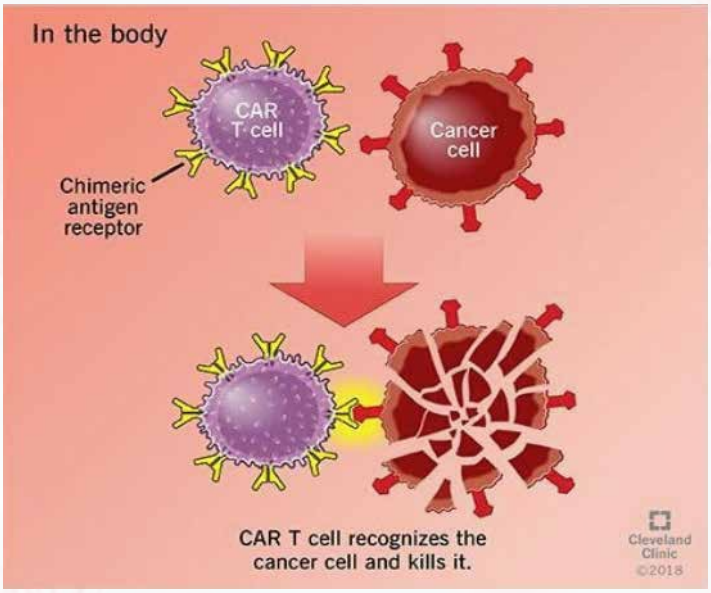
CAR T-cell therapy depends on efficient, stable and safe gene transfer platforms. T-cells are isolated through leukapheresis, which are grown & genetically modified using viral and non-viral transfection methods with the Chimeric Antigen Receptor [CAR]. Modified T-cells are grown in the culture. When the CAR-T-cells are prepared and pass all the quality control testing, the patient in most cases receives lymphodepleting chemotherapy and followed by CART-cell infusion into the body. The first chimeric receptor was designed in 1989 by Eshhar's group at the Weizmann Institute of Science in Israel. CAR-Tcells extracellular domains contain the antigen binding moiety and the spacer. The antigen binding moiety could be; a) A scFv (single-chain fragment variable) derived from the antibodies; b) A human Fab fragment, selected from phage display libraries;or c) nature ligands that engage their cognate receptor. The scFv is a variable monoclonal antibody fragments derived from the Mus musculus (mouse) monoclonal antibodies (mAbs),human Abs, it is responsible for recognizing and binding to the tumor associated antigens (TAAs), then it binds to the tumor cell. CAR-Tcelldetermines the unprocessed antigens as well as the carbohydrate and glycolipid structure expressed on the surface of the tumor cell.

CAR–T–Cell therapy

The process of the CAR-T-cell immunotherapy can take several weeks minimum of 3-4 weeks to do it completely,

1.COLLECTING OF T-CELLS

Firstly, the white blood cells (which include T-cells) are collected from the patient's body by using a method of technique called Leukapheresis. During this procedure the patients are supposed to usually lie on the bed or sitting in the reclining chair. The two intravenous (IV) lines are needed because blood is removed through one line, the white blood cells are separated out, and then the blood is given back to the body through the other line. While sometimes a special type of IV line is used to collect the WBC it's called a Central Venous Catheter, it has both the IV lines in built.The patients are supposed to stay seated or lying down for 2-3 hours during this procedure because sometimes blood calcium levels can drop during the apheresis, it can cause numbness and tingling or muscle spasm. This can be treated easily by replacing the calcium which may be given through the mouth or IV.



2. ENGINEERING THE CAR-T-CELLS

After collecting the WBC, the white cells are removed and the T-cells are separated out. And the T-cells are altered by introducing the gene from the specific Chimeric Antigen Receptor (CAR) on the surface of the cells. After reengineering the T-cells it's known as Chimeric Antigen Receptor T-cells (CAR-T-cells). CARs are proteins that allow the T-cells to recognise an antigen on the targeted tumor cells.

3. MAKING OF CAR-T-CELLS

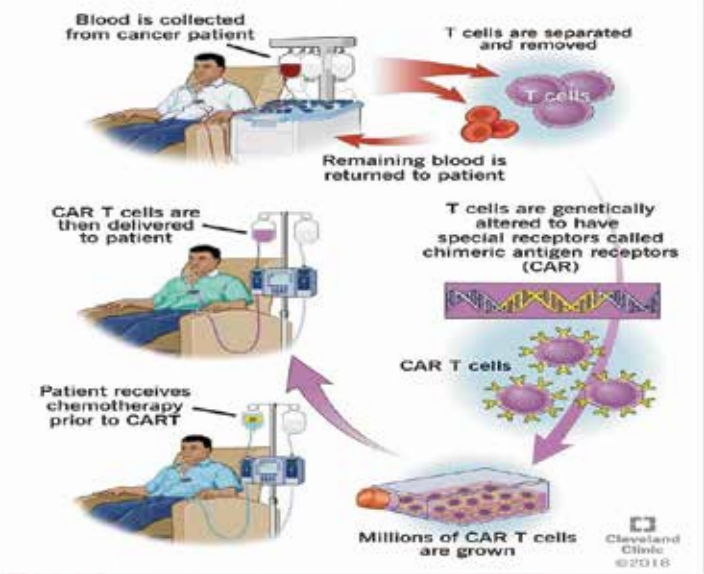
The re-engineered CAR-T-cells are multiplied in the laboratory. When they're grown enough for the immunotherapy, these CAR-T-cells are frozen and sent to the hospital or cancer centre where the patient is being treated.

4. CAR-T-CELL INFUSION

After the CAR-T-cells are made then given back to the patient. A few days before the CAR-T-cell infusion, the patient might be given the chemotherapy to lower the number of other immune cells.This gives the CAR-T-cells a better chance to get triggered to fight against the tumor cells. This chemotherapy is not very strong because CAR-T-cells shows the adorable effect towards the tumor cells to kill it,if it's present in the body.Many patients are given brief course of one or more chemotherapy agents called "Lymphodepletion" before the infusion.The CAR-T-cells are thawed and then infused into the patient. If once the CAR-T-cells start binding towards the cancer cells, then it starts to increase their number and destroy all the cancer cells.These are called "attacker" cells that will identify and attack the cells that have a targeted antigen on the surface.

5. CAR-T-CELL AGAINST RECURRENCE

The CAR-T-cells will help by acting as a guard against the cancer cells. CAR-T-cells will completely eradicate all the tumour cells present in the body months after infusion has been completed . As a result of the CAR-T-cell immunotherapy, over 80 percent of patients received a long term success in the treatment.



FDA approved treatment

CAR-T-cell therapies are FDA approved to treat some kinds of the lymphomas and leukaemia as well as multiple myeloma. CAR-T-cell immunotherapy currently approved includes:

Axicabtagene ciloleucel (Yescarta™)

It is a FDA approved for the treatment of the adult patients with the relapsed or refractory large B-cell lymphoma after two or more lines of the systemic therapies, including the diffuse large B-cell lymphoma (DLBCL) not otherwise specified, primary mediastinal large B-cell lymphoma, high grade B-cell lymphoma and DLBCL arising from follicular lymphoma. Yescarta is also indicated for the treatment of the patients with relapsed and refractory (RR) follicular lymphoma(FL) after two or more lines of the systemic therapy.

Tisagenlecleucel (Kymriah™)

It is a FDA approved for the treatment of patients upto 25 years of age with B-cell precursor acute lymphoblastic leukemia(ALL) that is refractory or in a second or later relapse. Kymriah is also approved for the adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy including diffuse large Bcell lymphoma (DLBCL) not otherwise specified, high grade B-cell lymphoma and DLBCL arising from follicular lymphoma. LIMITATION Of Use: Kymriah is not indicated for the treatment of patients with primary central nervous system lymphoma.It is a cd19-directed genetically modified autologous T-cell immunotherapy.

Brexucabtagene (Tecartus®)

It is FDA approved for the treatment of adult patients with the relapsed or refractory mantle cell lymphoma (MCL). This indication is approved by under accelerated approval based on the overall response rate and durability of response. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial.

Idecabtagene viculeucal (Abecma®)

It is FDA approved for the treatment of adult patients with relapsed or refractory multiple myeloma after four or more prior lines of the therapy, including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 monoclonal
antibody.

POSSIBLE SIDE EFFECTS OF CAR-T-CELLS

Cytokine Release syndrome(CRS)

CAR-T-cells multiply; they can release large amounts of chemicals called cytokines into the blood, which causes a ramp up in the immune system.It shows effects due to release are.

- High fever and chills Fast heartbeat(Tachycardia) & cardiac arrest
- Hemophagocytic lymphohistiocytosis
- Trouble breathing (Hypoxia)

Nervous system problems

This treatment has serious effects on the nervous system which shows symptoms like.

- Change in consciousness
- Trouble in speaking and understanding
- Loss of balance
- Seizures and tremors

Other side effects

Some other possible side effects of CAR-T-cells immunotherapy are.,

- Low blood counts
- Weakened immune system
- Allergic reaction during infusion
- Abnormal levels of minerals in the blood
- Anaphylaxis
- On-target, off tumor toxicity
- B-cell Aplasia
- Macrophage activation syndrome(MAS)

Limitations

CAR-T-cell clinical trials have shown great results in the early outcomes of CAR-T-cell immunotherapy patients with blood cancer.But in some studies, upto 90% of children and adults with B-ALL whose disease had either relapsed multiple times or failed to respond to the standard therapies achieved after receiving the CAR-T-cell therapy. It is due to the tumor cells losing the expression of cluster of persistence of CAR-T-cells or inhibition of CAR-T-cell activity.

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DABIGATRAN AND ITS ACTION ON COVID-19

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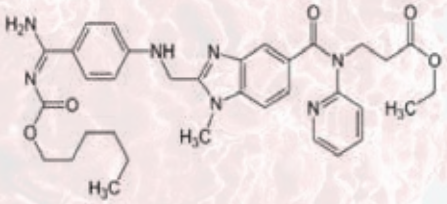
Abstract

Corona virus an infectious disease caused by SARSCoV-2 Virus has caused major health crisis around the whole world and is declared as a pandemic by the World Health Organisation (WHO). Over several months the virus has changed its strain to become stronger and more infectious along with morecomplications in the treatment process, one of which is thromboembolic manifestations. Several hypotheses have been suggested to understand the underlying pathophysiology behind development of a prothrombotic state in COVID-19 such as exaggerated inflammatory response resulting in activation of the coagulation cascade and endothelial injury. Usage of anticoagulants in COVID-19 remains an area of conjecture with no definite guidelines published to date highlighting the timing, dosage and duration of anticoagulation as well as the drug of choice. By considering all the above situation dabigatran has shown a good efficacy and safety profile, it may be considered as the first line choice for oral anticoagulation at discharge after COVID-19 infection, as this drug do not cause hepatotoxicity, not metabolized by cytochrome P450, has few drug-drug and drug-food interaction and have a specific reversal agent thus considering all these advantage dabigatran become the first preferred drug for its anticoagulant action.

Introduction to the drug

Dabigatran is a competitive direct thrombin inhibitor approved by the US FDA for prevention of embolic stroke in patients with nonvalvular atrial fibrillation. Some marketed brands of the drug are Pradaxa, Diaberex, Dabistar, Dablexa, Dabilong. In 2010, the United States Food and Drug Administration approved dabigatran, the first new oral anticoagulant to be approved in the United States of America in 50 years. Dabigatran is indicated for the prevention of embolic stroke in patients with nonvalvular atrial fibrillation. Dabigatran differs from warfarin anticoagulants in two ways. Dabigatran reduces the risk or haemorrhage compared to warfarin and is easy to use as it is an orally administered drug. In patients with atrial fibrillation, dabigatran given at dose of 110mg, was associated with rate of stroke and systemic embolism similar to warfarin but reduced risk of haemorrhage but if the same drug is given at 150mg, was associated with lower rate if stroke and embolism but similar rate of major haemorrhage. Thus, it can be concluded that a profiled amount of dose is not present which can reduce both haemorrhage and rate of stroke.



Discovery

Dabigatran was discovered from a panel of chemicals with similar structure to benzamidine-based hrombin inhibitor α- NAPAP which had been known since the 1980s.

Medicinal use

Dabigatran is used to treat deep vein thrombosis and pulmonary embolism in adults and children 3 months of age and older, it is also used to reduce the risk of DVT (blood clot in lung) and PE (blood clot in leg). Dabigatran is also used to prevent strokes in those with atrial fibrillation (a condition in which heart beats irregularly increasing the chance of blood clot in the body) , as well as deep vein thrombosis and pulmonary embolism in persons who have been treated for 5–10 days with parenteral anticoagulant.

Anticoagulant:

an agent which is used to prevent blood clot in blood vessels.

Adult dose:

110mg twice a day, it is more effective than warfarin but also costlier compared to it.

Route of administration:

Dabigatran comes in the form of capsule or pellet to be taken by oral route, it can be taken with or without food.it should be taken around the same time every day as long as the drug is prescribed, do not split, chew or crush the capsule.

Mechanism of action

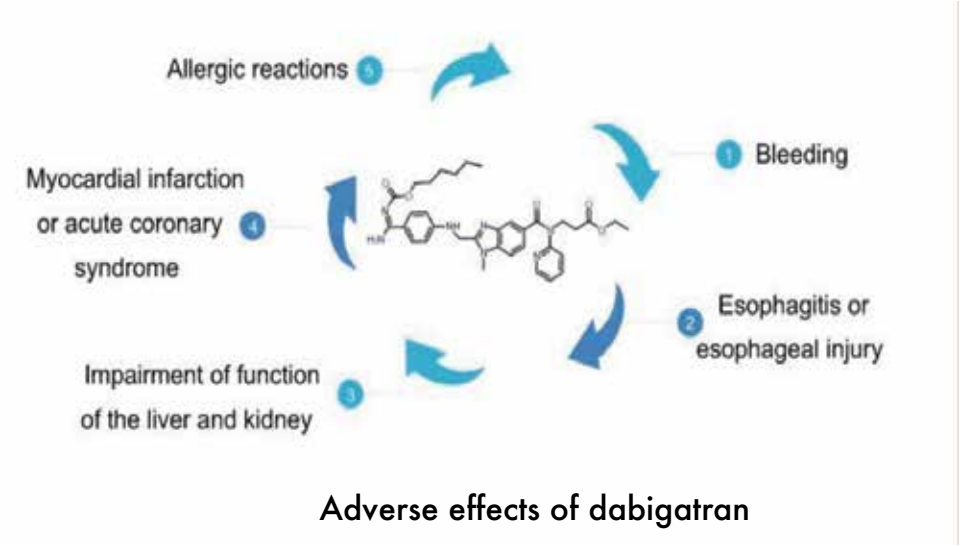
Dabigatran is a potent, synthetic, reversible, nonpeptide thrombin inhibitor. Dabigatran reversibly binds to the active site on the thrombin molecule, preventing thrombin-mediated activation of coagulation factors. Furthermore, dabigatran can inactivate thrombin even when thrombin is fibrinbound; it reduces thrombin-mediated inhibition of fibrinolysis and therefore, may enhance fibrinolysis.

Contraindication

Dabigatran is contraindicated in patients who have active pathological bleeding, since it increases bleeding risk and can also cause serious and potentially life-threatening bleeds. Dabigatran is also contraindicated in patients who have a history of hypersensitivity reaction to dabigatran (e.g: anaphylaxis or anaphylactic shock). The use of dabigatran should also be avoided in patients with mechanical prosthetic heart valves due to the increased risk of thromboembolic events (e.g. valve thrombosis, stroke, and myocardial infarction).

Adverse side effects

The most commonly reported side effect of dabigatran is gastrointestinal upset. When compared with people anticoagulated with warfarin, patients taking dabigatran had fewer life-threatening bleeds, fewer minor and major bleeds, including intracranial bleeds, but the rate of gastrointestinal bleeding was significantly higher. Dabigatran capsules contain tartaric acid, which lowers the gastric pH and is required for adequate absorption. The lower pH has previously been associated with dyspepsia: some of the hypotheses plays a vital role in the increased risk of gastrointestinal bleeding.



Adverse effects of dabigatran

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NANO PARTICLES IN THE TREATMENT OF TUBERCULOSIS

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ABSTRACT

Tuberculosis is the infectious disease caused by Mycobacterium tuberculosis which affects the lungs. It may invade other organs like kidneys, bones and lymph nodes. As per the 2019 survey, 1.4 million people died because of TB. In the world, TB comes under top 10 diseases. Mainly in the treatment of TB, the first line of drugs used are isoniazid(INH), rifampin(RIF), pyrazinamide (PZA), ethambutol (EMB) and Streptomycin(SM). The second lines of drugs are aminoglycosides- amikacin and kanamycin and polypeptides- capreomycin, viomycin, and fluoroquinolonesciprofloxacin, levofloxacin. As such these drugs are effective for the treatment of TB. There is a problem that arises like multidrug resistance (MDR). So nanotechnology based drug delivery is helpful in treating MDR-TB.

INTRODUCTION

Nanoparticles in TB:

Nanoparticle formulation which helps slow, sustained and control release from a biodegradable particle with the help of polymer technology. The size of the nanoparticles is submicron (<1um). Nanoparticles are biocompatible and biodegradable materials made up of polymers or solid-lipids.

Advantages of nanoparticles in the treatment of TB:

1. Acts for long period of time
2. Multiple drugs can be entrapped in the matrix
3. Less side effects compared to conventional dosage forms
4. It can be given through an route of administered
5 .Improved compliance

Types of nanoparticles used in the treatment of TB

ATD nanomedicine for oral route:

The rifampin, isoniazid and pyrazinamide were combined in solvent evaporation method and double emulsion process; these drugs are loaded in PLG nanoparticles. ATD loaded PLG nanoparticles were administered to Mtb infected mice to check its efficiency.

Liposome nanoparticles:

Liposomes are the closed vesicles of phospholipid bilayer enfolded in aqueous solution. These liposomes are having better chemotherapeutic efficacy. These liposomes are usually PEGylated. Upon administering drug in liposome carriers (rifampicin or isoniazid) in Mtb infected mice, twice a week for 6 week. It has been observed that it is able to clear the mycobacterial infection compared to free drugs.

Solid-lipid nanoparticles:

The size range is 10-999nm. These are biodegradable lipids in aqueous solution of surfactant. These have the ability to cross several anatomical barriers. They are known to be more effective in drug targeting which have higher bioavailability and lower toxicity.

Micro-emulsion:

These are composed of aqueous phase and oil phase with a diameter of range 10 - 100nm. These are thermodynamically stable, improved solubilisation and increased absorption and permeability. Mainly we can see water in oil or oil in water microemulsion.

Carbon nanotubes:

The size ranges from 1-100nm. Mainly we can see single or multi-walled. And these are functionalized with different proteins, peptides and nucleic acids which help in addressing targets against specific tissue or organ.

The new strategy in the treatment of TB is silver nanoparticles (AgNPs). Silver has antimicrobial properties. It will help in better targeting in multi drug resistant TB.These silver ions will disrupt several metabolic pathways and inhibition bacterial DNA replication. Silver nanoparticles created a trend in treatment of TB.

CONCLUSION

The preventive measures have to be considered in the treatment of TB. As such, the normal or conventional drugs are not helpful in treating multidrug resistance TB. So by utilizing nanotechnology in the formulations, we can achieve better targeting.

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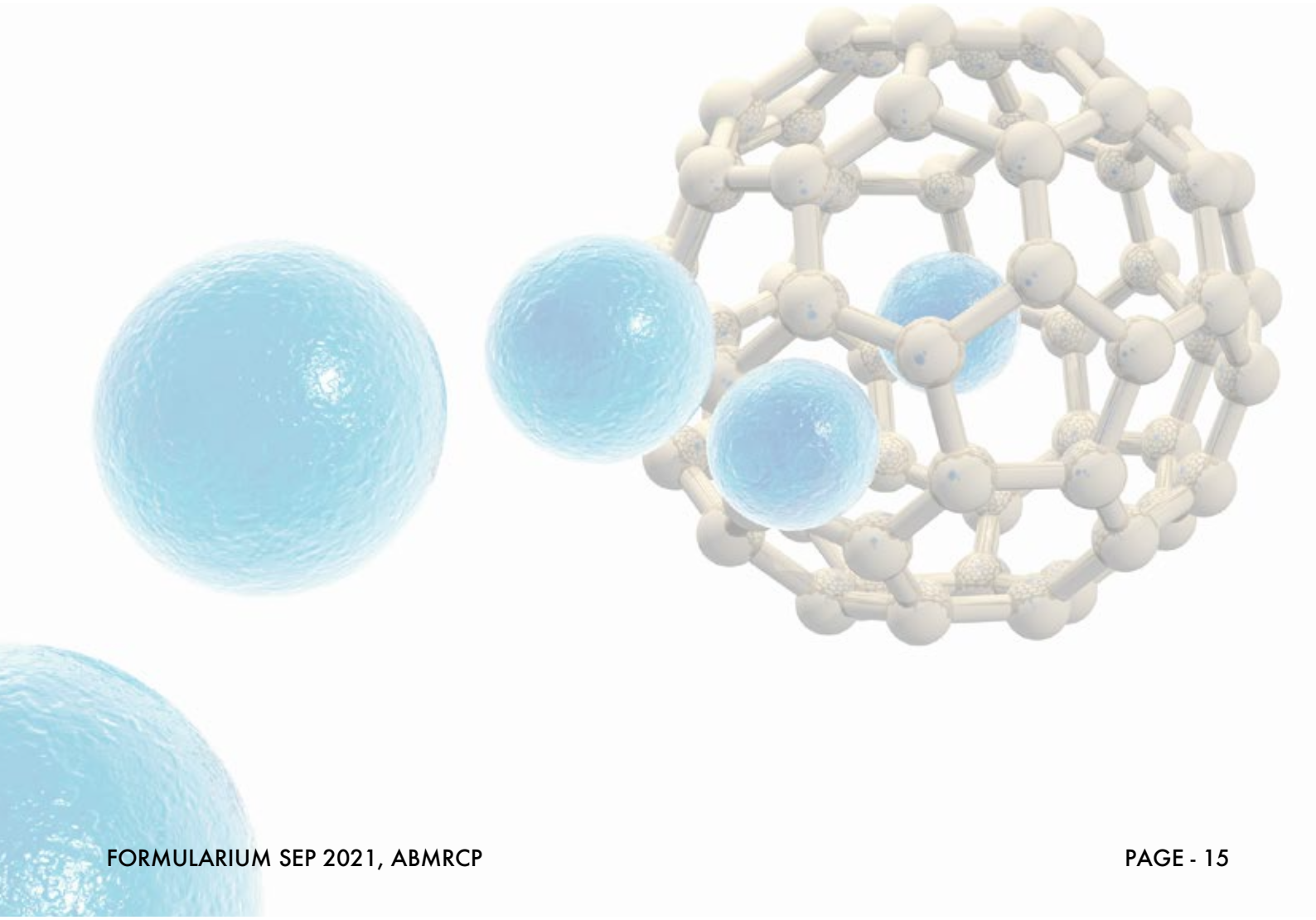

CAFFEINE

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INTRODUCTION

This article is divided into two parts. The first part gives a detailed description about the positive effects of caffeine on human health. The second part explains the adverse effects of caffeine on people.

Advantages of Caffeine

1.As mentioned earlier, Caffeine is present in beverages like coffee and soft drinks. People who have been drinking coffee for a long time will be less affected by liver related diseases. As per the survey it is proven that intake of caffeine reduces the occurrence of liver infections and fibrosis.

2.Caffeine is a stimulant to the Central Nervous System(CNS). It gets absorbed by adenosine present in the CNS and thereby induces drowsiness when we are sleepy.

ABSTRACT

Caffeine is the most commonly used psychoactive drug. Its chemical formula is $C_8H_{10}N_4O_2$. It is a component of many beverages such as coffee, soft drinks and edibles such as chocolates. The intake of caffeine by people is increasing day by day. The awareness of its effects on human health is less known to people. In this manuscript I am providing my review on the usage of caffeine referring to an article published in [1] that might bring awareness about the usage of caffeine.

3.Another main usage of caffeine is that it increases the memory power by improving the chemical reactions in the brain. According to the research, it is exhibited that caffeine decreases the occurrence of Alzheimer's and Parkinson's diseases. It also helps in concentrating on a particular aspect.

4.Nowadays, the most common thing humans are worried about is their weight. Regular intake of caffeine through any means increases metabolism and digestion. It decreases hunger and in-turn decreases the calories consumed thereby facilitating weight loss. It is also used as a supplement in many diet prescriptions suggested by nutritionists for people with fatigue.

5. It is observed that the athletes who consume caffeine have more energy than those who do not take in caffeine.

6.Apart from the uses mentioned above caffeine is also used in treating headaches such as Migraine.

DISADVANTAGES OF CAFFEINE

Now that we are aware of the uses of caffeine let us see the adverse effect it can have on people.

- Intake of caffeine causes discoloration of the teeth since it reacts with the teeth enamel.
- Consumption of caffeine is not advised for pregnant women. Although they have tolerance towards the effect of caffeine, the baby growing inside their womb will not have the immunity to withstand the impact caused by caffeine. This might affect the baby's resistance power in the long run.
- Absorption of caffeine decreases the absorption of calcium in the body, since it reduces the intake of milk thereby reducing the stability of the bones.
- Although caffeine improves the CNS, it temporarily increases the blood pressure which can be dangerous at times.
- If caffeine is consumed in limited portions, it prevents the occurrence of kidney stones. It causes excess calcium to get discharged through urine.

CONCLUSION

From the above sections, it can be inferred that the consumption of caffeine in limited or prescribed quantities is useful for human health and also the adverse effect it can have on them, if it becomes an addiction.

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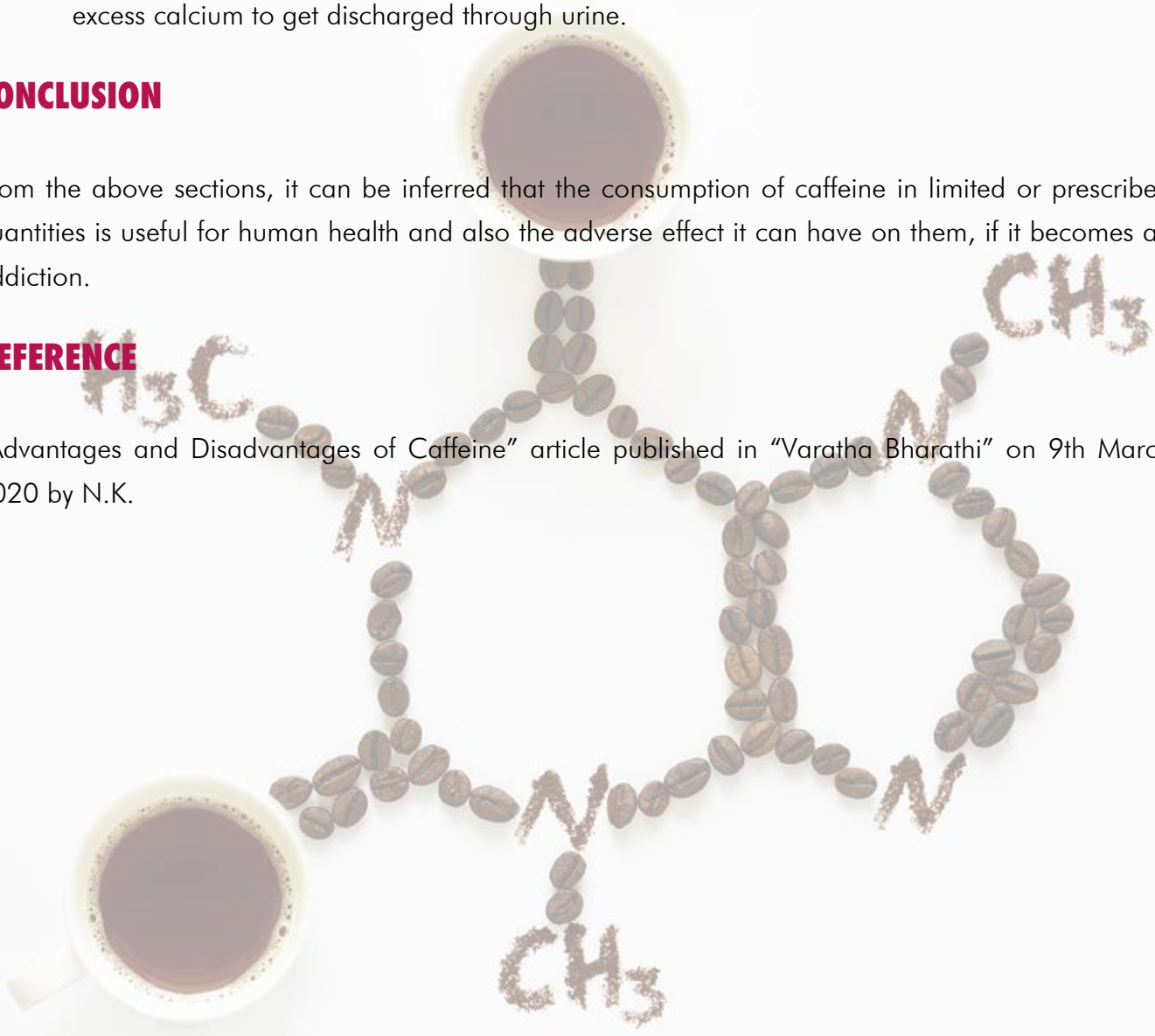
"Advantages and Disadvantages of Caffeine" article published in "Varatha Bharathi" on 9th March 2020 by N.K.



PHYSICAL MIXTURE FOR DRUG-EXCIPIENT COMPATIBILITY STUDY – AN INTROSPECTION

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INTRODUCTION

Pharmaceutical formulation science has over the decades identified plenty of drug product instabilities, degradation of active pharmaceutical ingredient (API) and bioavailability issues which have been attributed to the interactions of the API with one or more excipients. Thus in the preformulation testing, one of the studies carried out is the drug- excipient compatibility (DEC) study. Various study designs (binary mixture, n-1 design, mini formulation) are suggested to determine any incompatibility. One of the analytical tools employed is the Infrared (IR) spectroscopy. The IR spectrum is specific for each chemical entity. The IR spectrum of the test sample is compared to that of the pure API. Spectral match indicates compatibility. The absence of peaks for certain functional groups or appearance of new peaks indicates interaction between the API and the excipient(s) and this is an incompatibility.

It is a common observation in many theses and research publications that for the DEC physical mixtures of the drug and excipient (D-E) are made and analyzed by IR. (The methodology often does not contain any further information about study conditions.) From the comparative spectra a conclusion is made that since the peaks pertaining to the drug are retained, the D-E are compatible.

DISCUSSION

A physical mixture of D-E is made and in most of the cases loaded immediately into the sample port of the IR spectrophotometer and the spectrum is generated. The interaction between the D-E may be physical or chemical. Chemical interaction is the current concern to be identified by IR spectroscopy. The chemical reaction may be oxidation, reduction, esterification, complexation, cyclization, polymerization, hydrolysis, acid –base interactions, etc. An insight into the solid state kinetics of materials, especially chemical interactions, clearly indicates that the rate of any reaction is much slower compared to that in the liquid state. Temperature profoundly affects the rates of reaction. Sample storage at higher temperature enhances the rate of the underlying chemical reaction whatever that may be. Similarly, presence of moisture in the solid state facilitates a local microenvironment for D-E reactions to occur. The DEC study methodology includes exposing the D-E mixtures and a control, to various conditions like temperature, light and moisture for various time durations like 2-8 weeks and analyzing the samples intermittently and after the study period. The IR would thus aid in identifying incompatibility if any.

CONCLUSION

Taking a physical mixture of D-E, analyzing the same by IR and interpreting the result is compromised in the methodology. There is little chance for the reaction if any to progress at such high rates in the physical mixture to enable identification of any incompatibility. There is an error either in the drafting of the scientific methodology wherein the conditions are not specified, or else there is failure in the adopted methodology itself wherein the physical mixtures are tested right away. Thus with respect to DEC study, this key aspect of adopting a proper methodology and scientific writing of the same has to be kept in mind by the researcher.

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DRUG TOLERANCE AS ONE OF THE MAIN THEMES OF PHARMACOLOGY

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Drug tolerance can be a pharmacological idea describing topics of decreased response to a drug following its repeated use. Increasing its dosage may reamplify the drug's effects; however, this might accelerate tolerance, further reducing the drug's effects.

How different Tolerance and Resistance is?

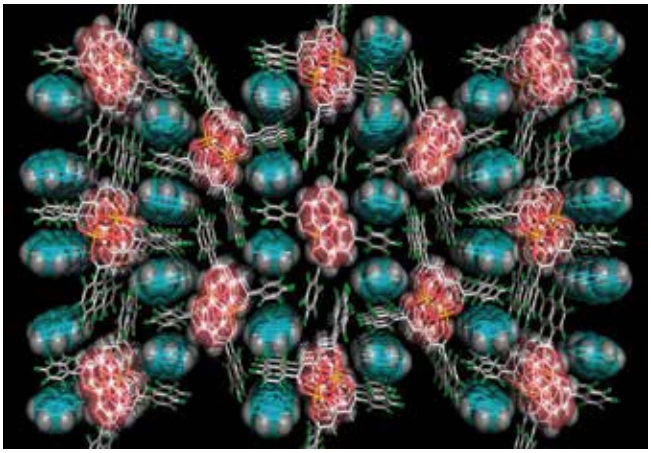
Tolerance may be a person's diminished response to a drug, which occurs when the drug is employed repeatedly and therefore the body adapts to the continued presence of the drug. Resistance refers to the power of microorganisms or cancer cells to face up to the consequences of a drug usually effective against them.

Types

Physical tolerance occurs at the cellular level. The body increases the speed at which the drug is weakened (metabolized). For instance, when someone drinks regularly, the liver will boost the assembly of enzymes that break down alcohol, allowing the body to urge to obviate it quicker. The body can also adapt to the normal presence of a drug, through decreasing the quantity of receptors, surely drugs, like opiates. The body stops listening to what the drugs are telling them. Behavioural tolerance is something psychological.

Danger about Drug Tolerance

When an individual becomes tolerant of prescribed medications, a doctor will often order a better dosage. With a better dosage comes a better chance of becoming addicted. Not all drugs are addictive, but many common drugs, like amphetamines (Adderall) and opiates (Oxycodone), are. Once addicted, an individual will adamantly and irrationally hunt down their preferred high. Many address illicit drugs like methamphetamine or heroin when their doctors refuse to offer them a better dosage.



CRYSTAL ENGINEERING – AN APPROACH TO DRUG DELIVERY

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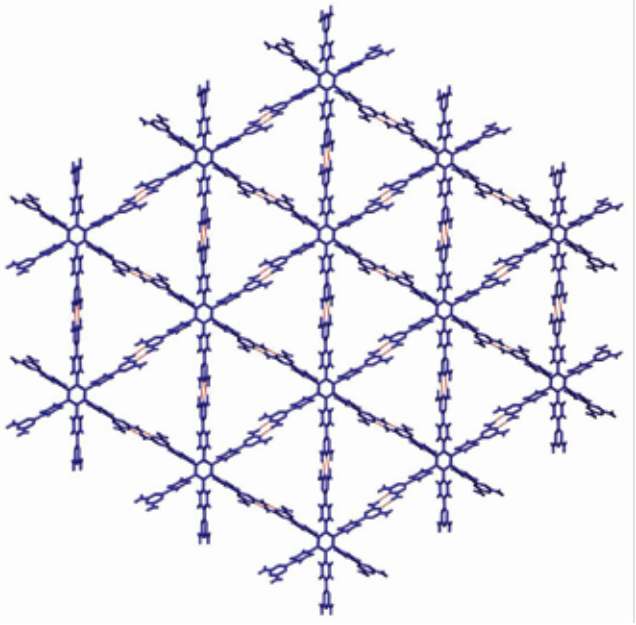

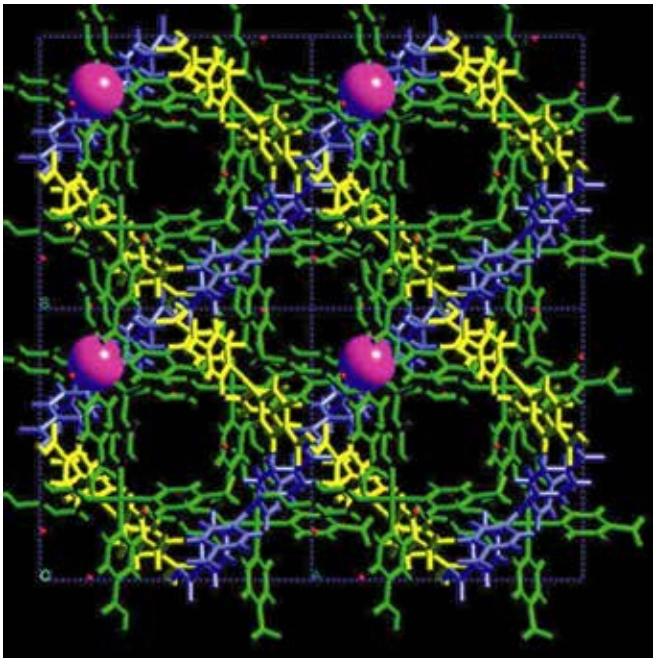

Since the drugs started being produced till this date, the most common hazard observed in pharmaceutical field is that the most efficient drugs also show poor to very poor physiological and physicochemical properties resulting in low bioavailability of the drug and thus low therapeutic efficacy on the subject. To overcome this drawback of such low solubility (or any other physiological properties) possessing drugs, the crystal engineering approach was first introduced in 1955 by the scientist named as R. Pepinsky, which was later defined by G. R. Desiraju (1989) as "the understanding of intermolecular interactions in the context of crystal packing and the utilization of such understanding in the design of new solids with desired physical and chemical properties". The crystal engineering of any drug is basically done by recognition of the binding sites of the drug mainly targeting the two type of bonds; the hydrogen bond and the coordination bonds, also the other aspects like the coordination polymers, π-π stacking, other π interactions and van der Waal's forces. The hydrogen bond is defined as the bond formed between electronegative atoms with a hydrogen atom which in turn is bonded to another electronegative atom. Whereas the Co-ordinate bonds are bonds between 2 electrons of the same molecule, it is also known as dative bond which takes place when a Lewis base donates an electron a Lewis acid.

The most applied approach based on crystal engineering methods is the "cocrystallisation" method, where a drug is conjugated with a coformer which enhances its deducing physiological property, the product then formed is known as cocrystal. A "coformer" can be an active pharmaceutical ingredient or an inactive ingredient which when combines with the drug and results in formation of a cocrystal, which may show better physiological properties. The cocrystal approach is mainly used to enhance the solubility of a drug, which in turn enhances the bioavailability and the efficacy of the drug from the formulation. The merit of these formulations is that they do not need use of much excipients or additives. They possess very stable crystalline forms; they show very few non required byproducts. The drug development timeline of drug gets shortened resulting in less cost of production. The approach is mainly applicable to BCS class II & IV drugs, which shows poor solubility and /or poor permeability resulting in reduced therapeutic efficacy of the drug.

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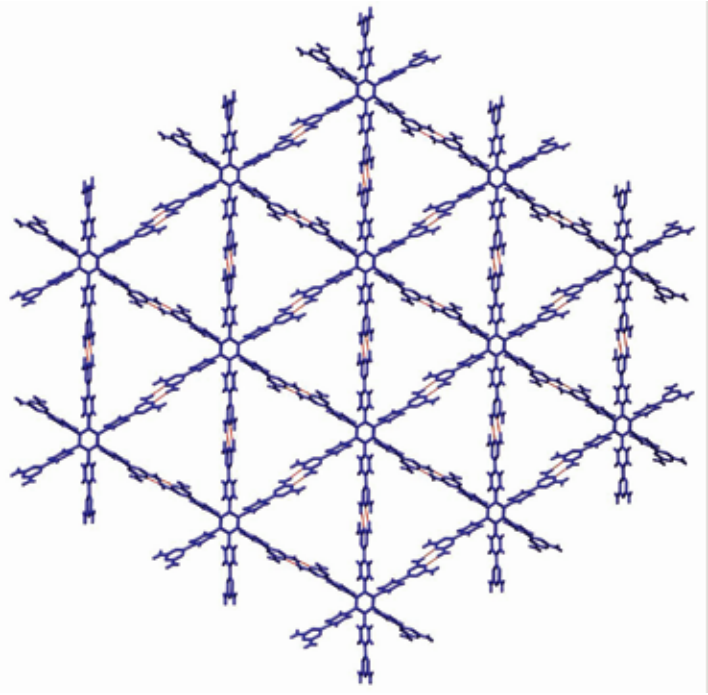

MEDICAL DEVICES - CLASSIFICATION

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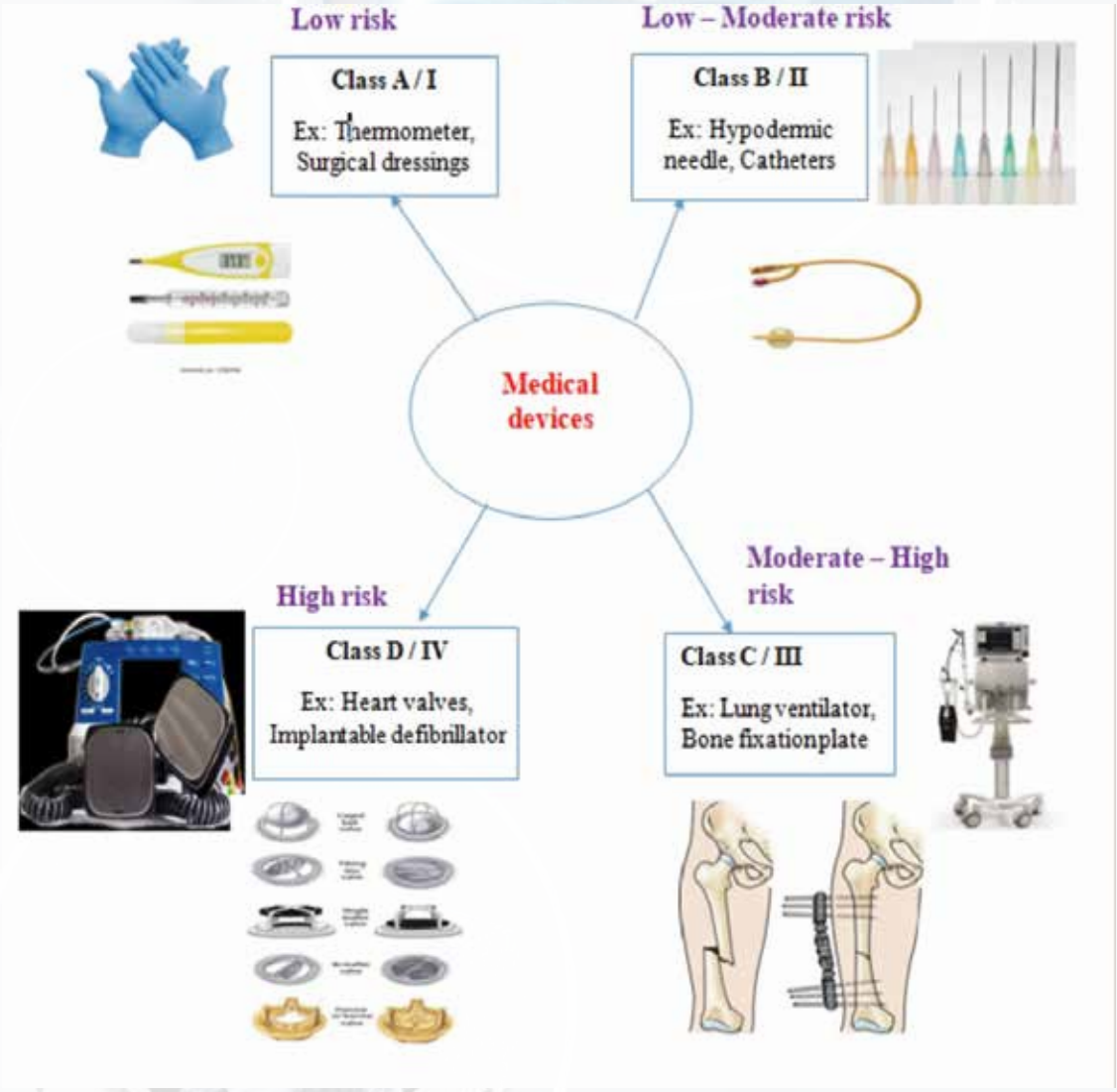
Medical devices are generally defined as the devices which can be any instrument, apparatus, machine, appliance, implant, software, material, or the other similar or related articles, intended by the manufacturer to be used alone or in combination for the diagnosis, treatment, mitigation or prevention of disease or disorder in human beings or animals. The classification of medical devices is based on the risk involved to the patient. Depending upon the regulatory authority like CDSCO/USFDA/EMA, etc the classification may vary. The class nomenclature based on the regulatory agency may be categorized as Class A/B/C/D, or Class I/ II/ III based on the risk level– high, moderate or low.



NON-SCIENTIFIC ARTICLES

ME AND MY GUITAR

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My journey with my guitar started when I was 6 years old. My parents got me an acoustic guitar and I hardly had any idea how to hold it. My parents were more enthusiastic than me at that time. My first guitar teacher was my maternal uncle. He was in a music band and seeing his programs being telecasted on television inspired me a lot. I used to be in front of the television throughout the telecast. Seeing him perform live on television was very thrilling. His support and encouragement helped me to overcome stage fear. In the beginning I was performing only for my family entertainment. Then I took up a certificate course in guitar at Kolkata. Mr. Gautam Mukherjee taught me for eleven years and I completed my Masters in Music degree from Allahabad music institution. I grew up with a guitar in my hands. It became an essential part of my identity. My teachers in the school also encouraged me a lot. They were also fond of the music which I created on guitar. Almost all the school functions had one event in which I was playing guitar. This brought happiness to my teachers and my family. Their encouragement increased my morale and I started playing guitar at national level. I received three gold medals and one governor recognition certificate. Due to my studies I had to ignore a contract of playback music from Jeet Ganguly for a film by Aditya Roy Kapoor. Though I missed this opportunity I enjoyed the college events where I played for my friends. Not only the events on the stage, off the stage performances also bring joy to me. I treasure the memories of those countless evenings when I sit crowded with my friends in the hostel room and all sing in different pitches and I play for them all. Acharya & BM Reddy College of Pharmacy gave me an opportunity to be filmed in a short movie and provided me with a stage to showcase my talent. This brought me closer to my seniors and juniors who are guitar lovers. We create new music pieces for ourselves and encourage each other. I am able to relive my passion of playing guitar because of the support provided by my friends, seniors and teachers.

EVERYONE IS NORMAL

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Aren't we all humans? So why don't we accept those who have different or prefer different sexuality? Why is it so hard to accept them into our so-called "society''? People who choose their sexuality are not o different in any way. Especially in the 21st century, where our world has such diversity, it is important to acknowledge every person for whoever they are and whatever they choose. As long as they are not doing any harm to the contributions of the society, they should be treated the same.

Yes, their understanding of the term "gender'' is different from ours, so what ? My point is that no matter what sexuality they choose, it should be considered normal .

All the choices of sexuality is termed in one abbreviation LGBTQ or Lesbians Gay Bi Trans Queer . It has been in use since the 1990s but it took years for the Government to pass the law where they can get married to their choice of gender, section 377.

Why is it so hard to accept them ? Why can't they be treated the same way the others are treated ? In my experience I have seen people calling them out , teasing them , torturing them and all for what, because of their choices ? When it comes to choices , I have seen people make the worst ones when it comes to the welfare of the society . They are a community just like all the communities we have in India. India is a place where there are many cultures celebrated over the 12 months but when it comes to accepting them, they are not open minded at all. And God forbid if they belong from the same family , then they are prohibited to talk about it to anyone . The families in India think that the teenagers are having " A Phase'', and that it will pass by as they grow older . The parents cannot begin to comprehend the fact they are uncomfortable in their body or choice of sexuality.

I feel so amazed when I see the LGBTQ community going forward till world renowned events like the Olympics . If they can accept them , why can't we at least treat them right ? We as humans should at least be polite, and kind to them because many times they are not comfortable to speak their minds as they know that they will be treated like aliens . We are the future generation , if we don't change then no one can . We need to bring the change from our end so that they feel safe. India is known for its diversity so why can't we all live in peace and harmony?

PEN & PANDEMIC: MY JOURNEY WITH COVID

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I guess everyone is tired of hearing this word, but this is my experience with the 2nd wave of coronavirus. COVID, or the coronavirus, is everywhere as I write this. Every day the news gets more depressing as the only thing they report is about COVID. It's like there is nothing else happening in this world. Hospitals are flooded with COVID struck people and the crematoriums with the dead. People are fighting to get medicine, oxygen, and ventilators. It is painful to see people in this situation. I have seen closely how people tried hard to save their loved ones but were unsuccessful. Every time a friend forwarded details or numbers with the hope that I could be of any help, I had to do my best! I tried hard, very hard to help someone in need, not even knowing who it was or what religion or caste they belonged to. I just knew I had to help.

On May 3, 2021, I was forwarded details of a 70-year-old patient and went through the details quickly, and started calling almost all the hospitals in Bangalore. To my dismay, no one received my call. What a disappointment! I was in constant touch with the attendant who was their son, who also tested positive along with his better half and 2 kids. The poor man, who had a severe throat infection and was all lethargic, was trying to save his mother. It was a fight against time indeed. The day came to an end and the SPO2 levels also began to fall drastically and my heart sank because I could not help. I went to bed that night praying for the lady I knew nothing about and her family.

The next morning, the son texted me saying that his mother had gotten a ventilator and she was doing fine. I was thankful to God for saving this precious life. After a few hours, I received another call to help a 26-year-old with an ICU bed whose SPO2 levels were constantly falling. I forwarded the message to my team so that we could help this young woman who was fighting for her life. I called the number provided to verify if it was someone who needed a bed or a fraud. I spoke to her brother, who had a very calm voice amidst the pain in his heart, knowing that he was losing his sibling with every passing minute. He went to various hospitals begging for an ICU to save his only sister, but no hospital was ready to take in the patient. I slept at 3 am that night after failing to help and with the hope that the authorities would allocate a bed for her. As the sunlight fell on my face, I woke up and checked my phone to find out she had given up at 4.30 am. Isn't it heartbreaking? Yes, it is. It broke our hearts. These are just a few examples of what is happening around us.

Looking at the other side of the ongoing pandemic, a lot of people were exposed to their family members for a longer duration than they normally spent, which helped in bonding while in households where individuals who hardly made a living might have experienced domestic violence of different forms, like physical, emotional, financial, verbal, sexual, with women, children, and the elderly. The downside of the pandemic didn't end there. It could've caused suicidal ideation and feelings of helplessness in individuals. A lot of individuals who lost their jobs, or a spouse who was the sole breadwinner who might have lost the job, students not being able to appear for exams they had been preparing hard for, which might have increased their anxiety, people who enjoyed spending time outdoors having to restrict themselves within four walls. The families of individuals who are frontline workers have not seen them for months. People who lost their loved ones due to the virus, people who could not support their family members due to lack of financial support/funds, would have all faced a lot of crisis, and managing this crisis would have caused some level of distress with regard to their mental health.

The pandemic taught us a lot of things, but the most important lesson learned is the circle of hope. If you can do your bit for society, it can always be a better place for everyone to live. A small act of kindness can bring a smile to someone who has had a rough day. Money is important, but not everything. Having a kind heart is enough to make you stand out and spread smiles. This too shall pass.

DOGS LOVE YOU MORE THAN YOU LOVE THEM

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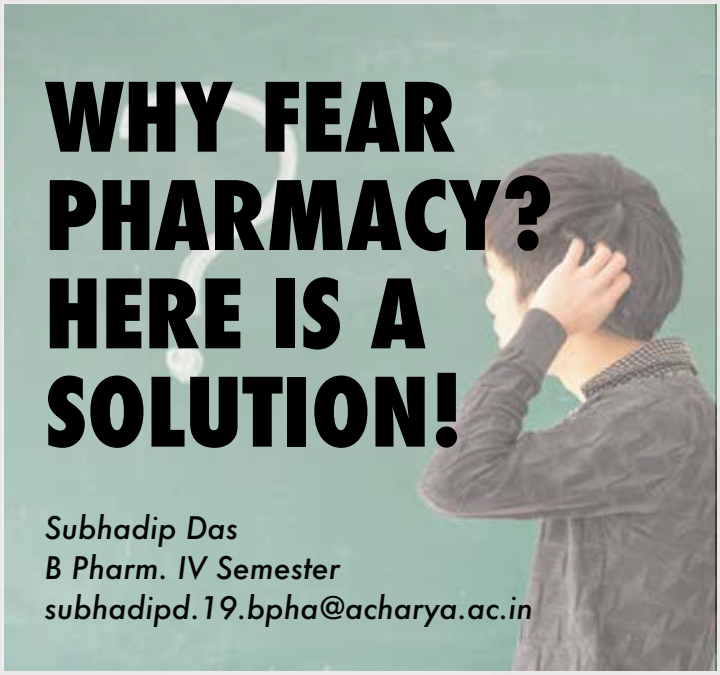
My flurry buddy: Oreo was just 30 days old when I got him home on my birthday. He was a small furry ball of snow that used to run around me. When this fluffy furry ball slept, it seemed like a cushion. Whenever he used to feel hot he would sit near the fridge and wait for my mother to open it. As my mom used to open the refrigerator to take out the fresh and cold vegetables, he used to turn flat to make his belly cool. At first when I brought him home my parents were objecting and used to scold me as he used to poop and pee in e very single corner of my house. I had to give him toilet training and make him learn the rules of my house. In the beginning he was confined to my room. After a few days of staying in my room, my parents also started loving him. Now, Oreo is the cutest member of our house. My mother adores him by squeezing him like a soft toy. He gets annoyed while my mom likes that a lot. Oreo has a friend whom he irritates all the time. She is ALLEY, an innocent baby girl Labrador. When Oreo needs to play with her he bits her ears and swings like he is in a swing. Oreo is the naughtiest and cutest in our whole house. I spent my quality time during lockdown with him. Oreo is very conscious of everything, and always in a full energetic mood. My father is a doctor by profession. Sometimes my father is home around 2-3 AM when everyone is asleep. But, once my father opens the door this little boy comes jumping and starts scratching my father's pants. He wants to sit on my father's lap. When I came to Bangalore, I stayed in a 1Bhk flat alone. I used to get bored of staying alone. Then I requested my parents to send Oreo to Bangalore. After Oreo came to stay with me, I am no longer lonely. Now I have a friend cum a night guard for my room. After 9am to 5pm of college hours when I return home, he waits for me to open the door. He wags his tails and jumps over me trying to say that "Why did you go? I feel alone at home" Oreo is the only one with whom I can share my daily events and the most stunning thing is he can understand everything that I say. Sometimes I go on through mood swings and I scold him. After a while he comes to my lap trying to convince me that "no issues I am with you and everything will be okay". I can hear his silent voice that he conveys through his eyes and gestures. That innocent honest eye of him melts my heart and I forget everything. He likes to play balls with everyone. Rather he is a good catcher. He is my daily morning alarm. At 6am he comes and licks my face to wake me up and I need to hug him otherwise his mood will be off and he won't take any food. Oreo has many human friends. They love to meet Oreo every day and play with him. Oreo is in my heart. I love my Oreo to the moon and back.



WHY FEAR PHARMACY? HERE IS A SOLUTION!

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(This article was published and reproduced from https://captaincool4690.wixsite.com/pharmacystudentr epre/post/study-tips-for-pharmacy-students)

• Learning how to effectively study in pharmacy is one of the biggest challenges students initially face.

• Although there's no secret to being the best student, good study habits are essential for success.

• Here are my 7 most important studying tips for pharmacy students, regardless of where you are in the program.

Take Good Notes

Taking quality notes during class is one of the most important things you need to do in order to be successful in pharmacy. Since there are multiple note-taking systems, it's important to figure out what works best for you. Examples include the Cornell, Outline, Mapping, Charting and Sentence Methods etc.

Although one system isn't necessarily superior to others, experts generally agree on the importance of staying organized and engaging in "active" note-taking, like writing notes in your own words, looking for answers to questions, and making connections in the course material. Studies suggest you're more likely to remember and understand information during active learning.

For me, I found it easier to handwrite notes and then compare them with friends after class.

Stay Organized

Staying organized is crucial to being as efficient as possible with your limited amount of free time. With the constant influx of projects, assignments, labs, and exams, it's easy to fall behind and forget when things are due.

Keep a detailed calendar with all of your upcoming exams and assignments, along with any extracurricular commitments. You can then start blocking off time on a daily basis to gradually start studying or complete necessary work. This will help you effectively manage your time and create a studying routine.

For in-class notes, consider using a separate binder or folder for each class, or if you take notes on your computer, create separate folders for all classes.

One of my friends in pharmacy uses a sticky note on his desk with a running list of all assignments and exams, so he could appropriately manage his time. Another friend kept a detailed daily planner to organize all aspects of her life.

Study with Others

Most experts agree that studying in a group setting has a number of benefits. For instance, it offers students the opportunity to engage in more detailed discussions, exchange different perspectives on topics, and identify areas of individual weakness. Additionally, studying in a group curbs procrastination and promotes interpersonal communication skills.

In my opinion, this is critical for success in pharmacy. Study the material first on your own, and then work with other students, friends, or even family members. The task of talking through study material will enhance your own understanding of it.

Avoid Distractions

Getting distracted is a sure fire way to interfere with studying. Fortunately, there are a number of simple yet effective things you can do to avoid disruptions and concentrate on studying, like turning off your phone and TV, avoiding social media, and picking the "right" location.

Experts disagree on whether it's preferential to study in one place or varying locations; however, what's most important is finding what works best for you.

The ideal study location should be limited in distractions and conducive to your individual preferences. Regardless of location, creating a routine can get you into the habit of studying.

For me, this means staying in my room for casual studying and going to the library with my noise-cancelling headphones when I really need to buckle down.

Use Resources

One of the most underutilized resources in pharmacy is office hours. This offers students the opportunity to meet with a professor on a 1-on-1 basis to review material from lectures and ask questions on topics you didn't understand. This will not only help you understand the material better, but also show the professor that you care and are making an effort.

Professors will sometimes offer review sessions before an exam, which can be helpful. Also, keep a lookout for old question papers of previous year exams, as they can provide a baseline for the types of questions that may be expected. Sometimes, professors will hand them out before an exam. If they don't, ask around. You may be surprised how often old questions float around, which can make a significant impact on improving your grade. If you're still struggling in a particular class, see if your college offers free peer tutors.

Don't Cram

This tip is linked to proper time management, which is vital for solid studying. Pulling an allnighter for that pharmacy exam might seem like a good idea at the time, but studies suggest cramming and sacrificing sleep for more study time can be counter productive.

Therefore, you need to study material daily. As a general rule of thumb, you should study at least 1 hour for every 1 hour of lecture.

From my experience, the easiest way to stop stressing out in pharmacy is to avoid procrastination and cramming before exams. You can limit this by staying organized and creating a study schedule.

Avoid Studying Too Much

A healthy balance and organized approach are essential to effective studying. If you overdo studying, you can actually struggle to retain key information.

Instead of spending every second studying, take short breaks or do some extracurricular activities or spend some time with friends to restore your mental energy. This can be accomplished by effectively organizing your time.

Finally, be sure to get a good night's sleep in the pharmacy. Study after study suggests getting too little sleep can result in memory and thinking problems, as well as increase your risk for a number of health conditions.

EXTRACURRICULAR ACTIVITIES

Vikram Pramod Thakur, *B Pharm. IV Semester, vt870965@gmail.com*

In the current situation, extracurricular activities are of similar importance as the academic career. We might have done exceptionally well in our academics or graduation, but at the time of interview or either in every step of life not only academic matters, extracurricular activities also have the same importance.

In my PU college, I was involved in all the extracurricular activities like sports, article writing or even joining the military training but unfortunately my father didn't allow me when I was in my last round of selection. I thought that my dream career ended there.

But after the joining Acharya, again I involved in all activities its seems like the opportunity is waiting for me to be my part of it and my biggest opportunity I got the chance to join NCC (National cadet corps) here and I thought about my past and beside leaving all those I again came back to fulfil my dream INDIAN ARMY.

Apart from this I also got the chance to participate in some more extracurricular activities, sports and cultural programs along with my studies. Most of them have set up a mind that extracurricular activities disturb studies in our life but it didn't seem like that. It's totally depend how we can manage these and everything is possible. It can change our life and career. It gives a great feeling while doing and after the curricular activities during the job period.

I personally suggest all those activities along with my studies and today in fourth semester B. Pharmacy enjoying my life as Acharyan in Acharya & BM. Reddy College of Pharmacy.
"I think that a perfect life doesn't depend only upon study but also on extracurricular activities. We must have some knowledge about this apart from books and this thing matters in life too"

FATHER & THE SON

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The planet earth supports life and all living beings have this great opportunity to live to its fullest. We all are so privileged to be together. Being in close surroundings creates a relationship between us. There are some relations we are born with like mother, father, grandparents etc. There are some relations we build as we start the journey of life e.g teachers, friends, etc. amongst all the relations that I have, the relation which I treasure the most is father to son relation. To me, a father is a person who takes the responsibility of the family on his shoulders. He handles the situation carefully to have a happy family. The father loves the family but he doesn't express it so frequently. He doesn't easily share his burden or worries.

A father sometimes shows his strict face to the family but it doesn't mean that he is rude and insensitive. He wants to maintain discipline. He sets the standard of morality and ethics very high so that all the family members live a respectable life. Sometimes a father uses strong words that doesn't mean he is angry. He wants his son to move ahead in life without making any mistakes. He inspires us to work hard and be punctual. Father doesn't show his emotions like a mother. Being a father is not an easy task. He handles and manages everything and ignores our mistakes.

" If the mother is like the branches or the leaves, then the father is a tree."

PHARMACY AS A PROFESSION

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We are pledging at the convocation ceremony as a pharmacist that I shall strive to perfect and enlarge my knowledge to contribute to the advancement of Pharmacy and public health. Let us think how we can make our oaths meaningful.

We can see the same pledge at most of the pharmacy related institutions but I suggest you all to write the words in your heart to attain the fulfillment of our wishes. Now, we are going through hard times especially our country facing the post COVID financial dilemma and we want to arise with new innovations from our Pharmacy field to support the current condition.

As a Pharmacist, we can change things in a different aspect. As we opted for the Pharmacy course, the first question that arises from your society may be what you are getting after completion of the course. The question may still be arising in your condition; you have to find a solution right now itself otherwise it will remain forever without answers. If you are not able to answer a doubt related to a medicine, it is the time for self-analysis. All the aforementioned questions can be answered if you have willingness to develop your area of interest and knowledge. We can use ICT tools, freely available software and social media for getting updated in our specialized areas.

As we all are reboundable to the family as per our culture, if we want to succeed in the future we have to achieve some additional skills like clinical practice experience, participation in social events, gain soft skills, languages as per your dreams, crack competitive exams and more than that continuous work should be need for your success.

Nowadays, we have many open windows available like Pharmaceutical industry, research and development, teaching, quality assurance, regulatory affairs, pharmacovigilance and as a clinical pharmacist. If you want to have a government secured job, start your preparations, right now. More than that, if you find a boss by yourself, you can become an entrepreneur also by adding some post graduation diploma or MBA course also to succeed in that career. Just think, everyone has the same hours and days, but someone is making a difference, Why? Still some are sleeping with your dreams and if you want to become a winner- wake up and start working for your dreams.

Wishing you all a successful and
fruitful career

ADULTING PLEASURE : THE STIGMA

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As per WHO, adolescence is an age in the life stage of humans which generally refers to individuals between ages 10 and 24. Well, I know right! As college students we all have been there! It's a tough time in all of our lives. Not only the body but also our minds undergo various anatomical and physiological changes during this time. Hormones racing through blood streams and spiking up your emotions makes you wonder what's actually happening in your body and mind…..which in times, can get you in trouble too. (P.s- I have been there)

There are two main hormones that spike up during this period. Testosterone in males and oestrogen in females. We become more curious about our body and it's ongoing changes. This often leads us to venture into wild areas and paths. One of the most visited paths that most curious teenagers use are Porn and masturbation, which often comes from peer pressure or getting free unchecked internet access at a very early age.

Masturbation is an aspect of childhood sexuality that parents find hard to respond to comfortably and appropriately. Part of the difficulty may be the need to acknowledge that children are sexual beings. The misunderstanding and secrecy about masturbation add to the parent and child discomfort. By definition, masturbation is self-stimulation of the genitals. It is done by both boys and girls. Just how common is masturbation during the various stages of childhood? Varied data is available across different age groups.

PORN is alluring. We understand that. Sometimes por·no [pawr-noh] . Pornography; sexually explicit videos, photographs, writings, or the like, produced to elicit sexual arousal (often used attributively). But why? Why is it so destructive, especially to teens? Over and over, boys and girls fall prey to the immediate gratification of sexual fantasies and pornography. I can't tell you the number of times both boys and girls have said they see kids at school viewing pornography. In the brain of a teenager, some areas are welldeveloped and very active and others are a bit more lacking. For instance, brain components, such as the limbic system, which is responsible for a lot of basic functions including emotions, behaviour, motivation, and long-term memory, areextremely active in the teen years of life. One component, the striatum, is a critical piece in the reward system of the brain.

Though mainly self-explanatory, the reward system in the brain is essential to survival. We are "rewarded" with dopamine (the feel-good neurotransmitter) when we do certain things such as eating or involving in sexual activities, both of which are part of survival and building relationships that carry us through life. This reward system is a way our brain learns and shapes itself to survive in our world. Since teenagers have a less active frontal lobe and a hyperactive limbic system, we see teenagers seeking novelty and thrill, but lacking the full ability to distinguish between healthy and unhealthy ideas.
These addictions lead to various problems in real life. Most daily porn viewers (mostly men) often complain about erectile dysfunctions and loss of libido. This mainly occurs as the brain, due to its regular input of the porn, finds the actor's physical features more attractive than his/her partner. Often this leads to disappointments, divorce, break up and even household violence in rare cases.
As a part of the health care team, we the PHARMACIST must come forward and spread awareness about such sensitive, personal yet important problems. Arranging seminars, and conducting sex education classes in schools and colleges will be a great initiative to educate people about the myths and facts about porn and masturbation. There is a stigma and it has to be overcome. On an individual level let's talk to our close ones and friends and help them to open up about their problems, so that we can give them proper advice and counselling to make their lives better!

SHE

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And she's fire
She's ice
She is the deepest of oceans
She's the highest skies.

And she's serene wind
She's vicious tides
High and low
It's your gravity that decides.

And she's light
Shines bright like the sun
She is cool as moon
Revolves with you turn by turn.

And she's fierce
But gentle too
She brings the best of both worlds
Imperfections! She has few.

And she's water
She always finds her flow
Shapes with her surroundings
Only true light can make her glow.

And she's like a firefly
She's not afraid of the dark
Just hold her hands with trust
Let the magical journey embark.

ROUGH PATCH

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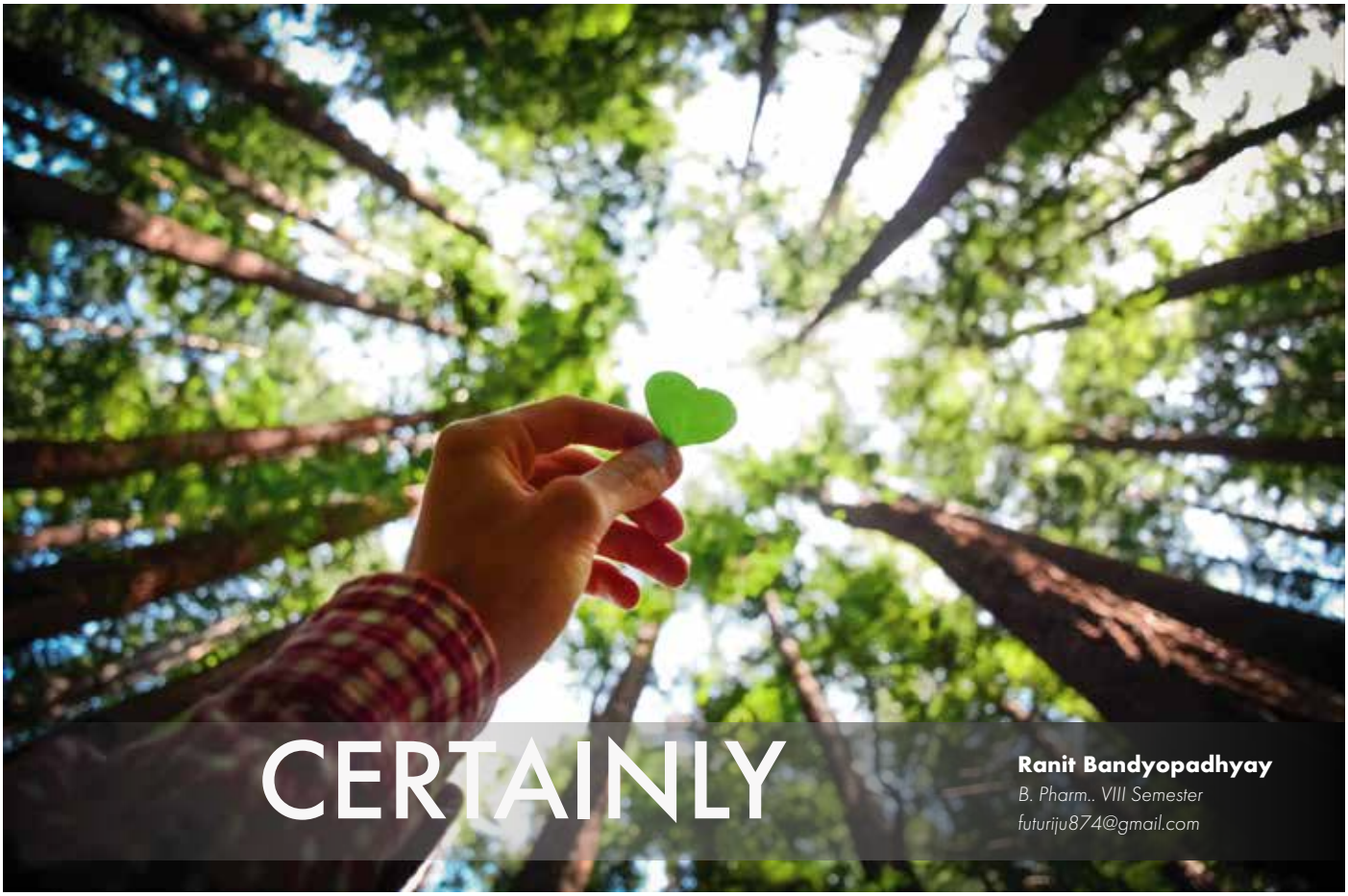
The good things take time;
But it isn't as easy as water and lime.
What we need is extreme patience;
But our mind will be in absence.
Feel like we are completely drown;
in the dream of having a crown.
Everyone goes through a difficult period;
To triumph over the people in Myriad.
The times of rough patch isn't easy,
Where everything seems so greasy.
No matter what just keep going
despite you are slow;
So better go with the flow.
This world is full of hardships and Competition;
The key to succeed is your hope, hardwork and dedication.



CERTAINLY

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Certainly ,
Her glance was something for him.
Her certain look took him to the ocean.
He had a feeling of love.
But she was whipped for him.

She touched his heart,
Beats were increasing,
But he felt the waves of a storm.

Then,
She left every thing happily
Wi th a cloud of joy,
Just giving her pure love and some sorrows,
As a return gift for him.

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LET THE BIRD FLY

Let the bird fly,

Let her go.

Let her come back,

Let her be happy.

Again, let her go

As far as she can fly

To spread the joy

Let her come back again

To make an Ornitho

campaign.

THE FINAL CALL

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AND WHEN THE FINAL
CALL COMES
I WISH TO DIE AS A
HAPPY MAN

SOME MEMORIES I WANNA
TAKE AWAY
A LEGACY I WANNA LEAVE
BEHIND

STORIES THAT PEOPLE
WILL REMEMBER
DEED THAT WILL STAY IN
THEIR HEART

A LIFE FULL OF
RIGHTEOUSNESS
NO WRONGS DONE OF
ANY SORT

AND WHATEVER I WILL
LEAVE BEHIND
HOPE IT GETS PASSED ON
AHEAD.

LONG LIFE I NEVER
PREACHED FOR
LIVED AN UNFORGETTABLE
ONE INSTEAD

ART...WORK

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ALUMNI TALK

Mr. Harsh Rastogi

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Batch: 2016-2018
Present Designation: Assistant Professor
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Finding the right path to success at the right time is really very important and for that way I had selected "ACHARYA" a brand of education in field of Pharmacy. The compatible environment and the systematic approach towards imparting education at ACHARYA & BM REDDY COLLEGE OF PHARMACY made me competent individual. The wide range of activities both curricular and co-curricular along and the support from ACHARYA is really very appreciable and very helpful for my future. The faculties are really very knowledgeable, down to earth an approachable when any need arises. ACHARYA develops well trained professionals specifically in Pharmacy. Today, if I am in good position it's because of what I have learnt from ACHARYA and I am really proud to be an "ACHARIAN".

Hello all. This is Sangeetha. I have completed my master's and Bachelorette from Acharya & BM Reddy College of Pharmacy, Bengaluru. (Batch: 2014-2020).

Life in Acharya

Unlike an ideal college where students just come, attend the class and leave. At Acharya, we are also allowed to showcase our talent. Here, the students are encouraged to take part in all the activities starting from organizing an event till volunteering it. I was a student just like you who had stage fear, not taking initiatives. But, after joining here, I was encouraged by my teachers to indulge myself in various activities and help in breaking my comfort-zone. This is not just a place to study, but also a place to mold yourself in all the aspects and get prepared for your future.

Life after Acharya

I hear people always telling me that I have patience. But I can proudly say that I learnt it from Acharya. There are many instances which always remind me that I learnt them from the people of Acharya (including teaching and non-teaching staff).

To my sweet juniors

It's ok if you're always being pointed out by your teacher to do tasks. Remember, that is when you would start preparing for your future. Lastly, I would like to say a big THANK YOU to everyone whom I had a chance to interact with. I wish all of you the best in your future endeavors!!!

Feel free to contact me @ 9066848174

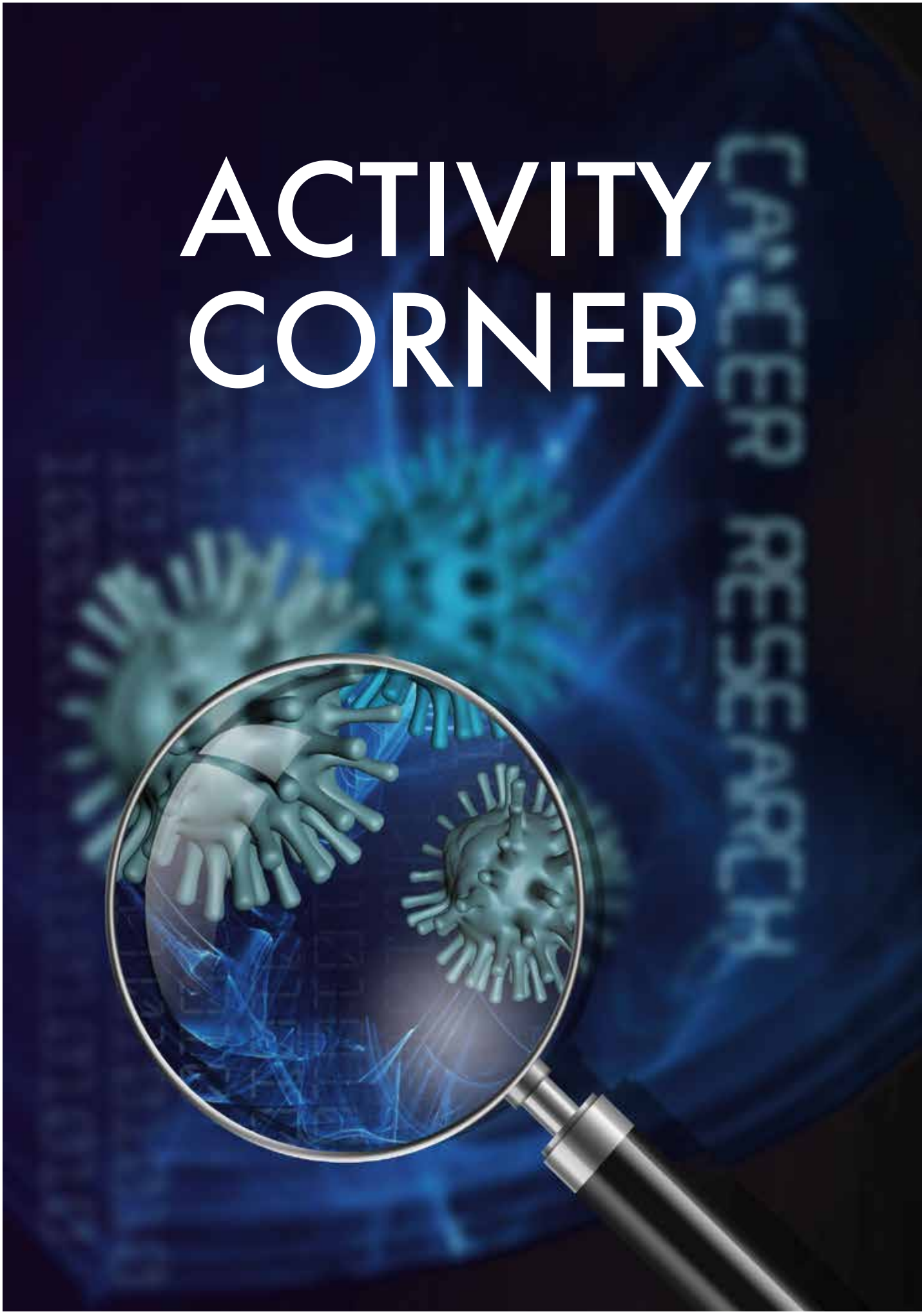
Mr. Rio Fernandes
Batch: 2018-19
Company name: Cipla
Location: Verna industrial estate Goa
Job profile: Senior executive

This is Rio Fernandes and I would like to share some of my experiences from my 4 years at ABMRCP. It seemed very difficult for me to adjust at first with the college environment but as days passed, things started to become normal. I started to enjoy my studies and made some amazing friends. Although I liked almost every aspect of my college life, but one thing that made me learn better and helped in my overall growth as a student was the practical experiment classes.

It was a place where we all were encouraged to interact, learn and think to develop our problem solving skills. Being able to work with a group certainly helped me to develop a sense of team coordination and team ethic. Those wonderful years of my college still remains very close to my heart and I will conclude this by saying that enjoy your time while you are there and try to grow and enhance every aspect of your personality and not just the academics.

Best Wishes
Rio Fernandes

ACTIVITY CORNER



RESEARCH ACTIVITIES

MoU signed during 2021
Rubizon. Pvt Ltd.
THIAGROW Thiagrow Labs Pvt. Ltd, Peenya, Bengaluru
KLE Society's Institute of Dental Sciences, Bengaluru

Grants received during 2020-2021	
Name of the funding agency & Title of the project	Name of the investigators, Total amount sanctioned in INR
ICMR Discovery of triangular heterocyclic molecules as inhibitors of dual oncogenic pathways triggered by HSP90 and braf kinase	Dr. N.M. Raghavendra 28,13,355
ICMR Design and synthesis of novel fourth generation EGFR inhibitors selectively targeting triple mutant L858R/T790M/C797S mutation for Non-Small Cell Lung Cancer: A mitochondria target imaging and photodynamic approach	Dr. Gurubasavaraja Swamy P.M. 26,82,604
AICTE Discovery of trigonal heterocyclic molecules as oncogenic braf inhibitors for the treatment of small cell lung carcinoma	Dr. N.M. Raghavendra 15,27,451
Industry Consultancy Grants from Industry	Dr. Manjunatha PM 7,04,400
RGUHS Molecular design, chemical synthesis and anticancer studies of tri-substituted heterocyclic compounds as HSP90 inhibitors	Dr. N.M. Raghavendra 7,00,000
RGUHS Development of Novel Mesoporous Silica conjugated Trastuzumab-PLGA nanoparticles with improved kinetics for (HER)2+ targeting, avoiding resistance in metastasis of breast cancer	Dr. Sajeev Kumar B 4,00,000
RGUHS Development of dacomitinib loaded superparamagnetic nanoparticles as inhalable chemotherapy for lung cancer	Dr. J.Joysa Ruby 2,00,000
AICTE Seminar grant	Dr. Hemalatha K 50,000
RGUHS Delicious organic herbal suckers (lollipops) to treat iron deficiency in children	Ms. A. J. Miriyam Claudish 6,000
AICTE Grant for FDP program	Dr. Sajeev Kumar B 93,000

PG Projects Completed

DEPT OF PHARMACEUTICS

1. Formulation and Evaluation of Metal Nanoparticles for the Treatment of Rheumatoid Arthritis By, Anupama Singh
2. Formulation and Characterisation of Polyherbal cubosomes for treatmemt of Alopecia By, Smitha T V
3. Design, synthesis and evaluation of Novel Biofunctional Nano Carriers For Targeted Drug Delivery System By,Ravi Kumar Sah
4. Formulation And Evaluation of Mini-Tablets Containing Antithyroid Drug By, Nithin Sagar M N
5. Development and Characterization of Carica papaya Leaf Extract Dry Liposomes Filled Enteric-coated Capsules for Dengue By, Mukeshkumar Bhagat
6. Formulation and evaluation of transdermal film of an antidiabetic drug By, MooleRajuVariseema Deepthi
7. Formulation and evaluation of polyherbal nanotransethosomes for the treatment of alopecia By, Tejaswini H
8. Synthesis, development and characterization of novel Hsp90 nanoparticle inhibitors By, Aditi Upadhyay
9. Formulation development of protein magnetic nanoparticles for targeting lung cancer cell By, Ajay Patil
10. Essential oil mediated green chemistry of metal nanoparticles and its characterization By, Abubakar Mohamed Toom

DEPT OF PHARMACOLOGY

1. Design and synthesis of novel Glipizide analogues for the treatment of diabetes mellitus. By, Mr.Ranjit Tajpuriya
2. Evaluation of Coniferaldehyde Against Haloperidol Induced Parkinsonian Wistar Albino Rats By, Gayathry P
3. Evaluation of Anti-Arthritic Activity of Fisetin and Sansevieria Cylindrica Leaves Extract in Freund's Adjuvant Induced Arthritis in Rats By, Akhila N R
4. Evaluation of Terpinene on STZ induced diabetic nephropathy in albino rats By, Mallika N
5. Neuroprotective effect of Geraniol and Tocopherol against Aluminium Chloride induced Alzheimer wistar rats By, Akanksh Das
6. Biological synthesis and chemical evaluation of HSP 90 inhibitors By, Vibhu Bhardwaj
7. Evaluation of Anti-diabetic effect of Hesperidin Methyl Chalcone in Zebrafish Model By, Abir Lal Samanta
8. Preclinical testing strategy for the development of novel chemical entities for anticancer activity By, Kmenlang Sutong
9. Evaluation of gastrointestinal tract inflammation activity in rat model using combination fisetin and lactospore By, Prudhvi Raj

DEPT OF PHARMACEUTICAL REGULATORY AFFAIRS

1. Regulatory Framework of Manufacturing Facility for Medical Devices as per USFDA , CDSCO & ISO 13485 - A QbD Approach By, Bibaswan Lahiri
2. A Comparative Study of Marketing Authorization of Medical Devices in US, EU And India. By, Navya B R
3. Evolution in Intellectual Property Protection of Biological products in India and USA By, Shrikanth P
4. An approach on current regulatory considerations of adverse drug reaction reporting and pharmacolvigilance for biologics in India and US By, Ayushi Agrawal
5. Challenges in developing clinical trials for medical devices in US, EU and INDIAN market By, Shoukat Ali
6. Regulatory Framework of Design of Packaging Configuration and Labelling of Pharmaceutical By, Amit Sharma
7. Regulatory Process for Import and Export of Pharmaceutical Products By, Anusha .P
8. Regulatory framework of combination products in USA and Europe-A comparative study By, Deeksha K S
9. Study on Current US Regulations For Labelling of Medicinal Products and Its Future Perspective By, Suhail Nafis

DEPT OF PHARMACEUTICAL CHEMISTRY

1. Pyrimidine-Quinazoline based Discoidin Domain Receptor Inhibitors: Design, Synthesis and in-vitro anticancer study By, Arka Das
2. Design , synthesis and anti -cancer activity of novel heterocyclic compounds as BRaf inhibitors for the treatment of melanoma By, Sumiran Chettri

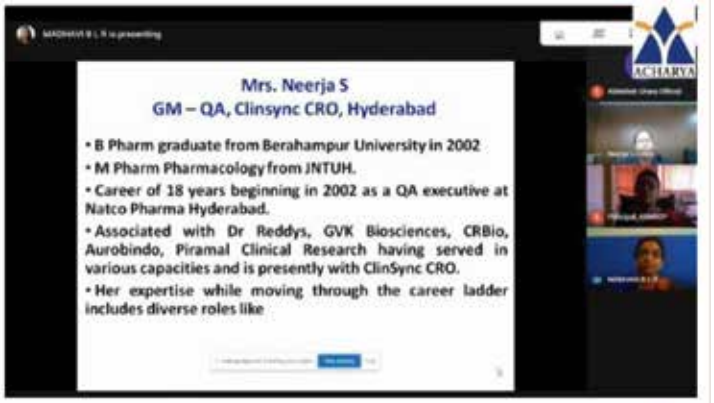
DEPT OF PHARMACEUTICAL QUALITY ASSURANCE

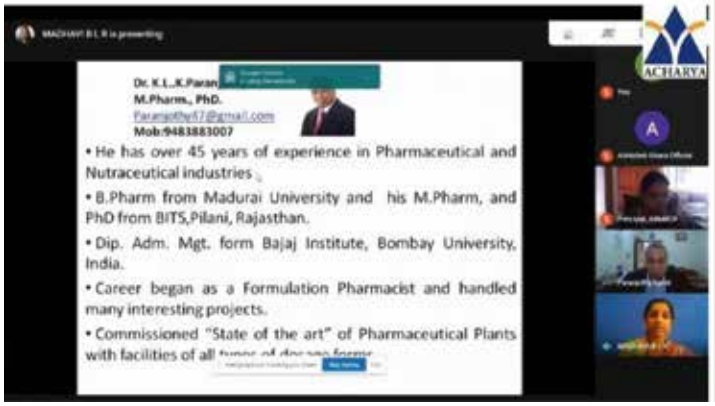
1. Quality by design based risk assessment for the production of metoclopramide hydrochloride orodispersible tablets By, Deekshitha HS
2. Application of QbD as a strategic tool for the risk analysis of flunarizine tablets preparation By, Ridhi K
3. Process design and qualification: relative impact of formulation variables on quality attributes of sublingual tablets By, Boggula Lakshmi Prathyusha
4. Process validation for Carbamazepine By, Krity Neupane

DEPT OF PHARMACEUTICAL ANALYSIS

1. Evaluation of chemical compatibility of tablet excipients with ondansetron using HPLC method By, Velimidi Navya

GLIMPSES OF EVENTS

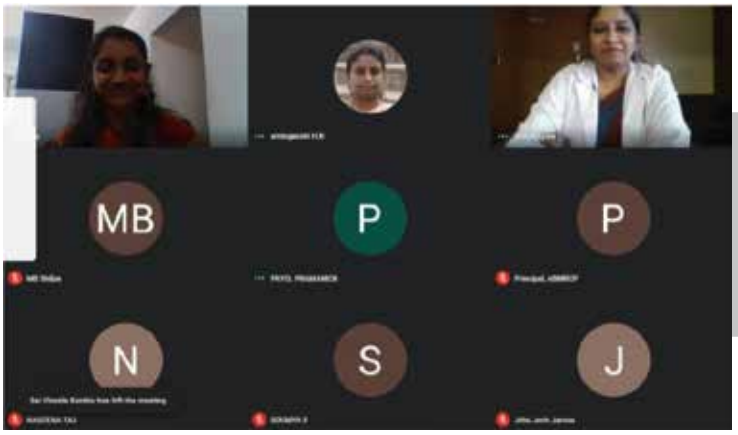




TWO DAYS NATIONAL WEBINAR ON "TRANSFORMING GLOBAL HEALTH" (24-25 SEPTEMBER 2020)

THREE DAYS NATIONAL WEBINAR (8 - 10 OCTOBER 2020)

INTERNATIONAL WEBINAR ON SARS COV-2 (21-22 NOVEMBER 2020)



WEBINAR ON WOMEN'S HEALTHCARE
9 JANUARY 2021

WORLD CANCER DAY
MINUTE TO MINUTE
4 FEBRUARY 2021

DARWIN'S DAY QUIZ
12 FEBRUARY 2021

WORLD SCIENCE DAY
27 FEBRUARY 2021

NATIONAL ROAD SAFETY DAY
GUEST TALK
4 MARCH 2021

INTERNATIONAL WOMEN'S DAY
RAMP WALK
5 MARCH 2021

INTERNATIONAL WOMEN'S DAY
GENDER SENSITIZATION – POSTER
CONTEST 5 MARCH 2021

INTERNATIONAL WOMEN'S DAY
HAIRSTYLING COMPETITION
5 MARCH 2021

INTERNATIONAL WOMEN'S DAY
BREAST CANCER SCREENING
PROGRAM 6 MARCH, 2021

NATIONAL VACCINATION DAY
2O MARCH 2021

WORLD KIDNEY DAY
20 MARCH 2021

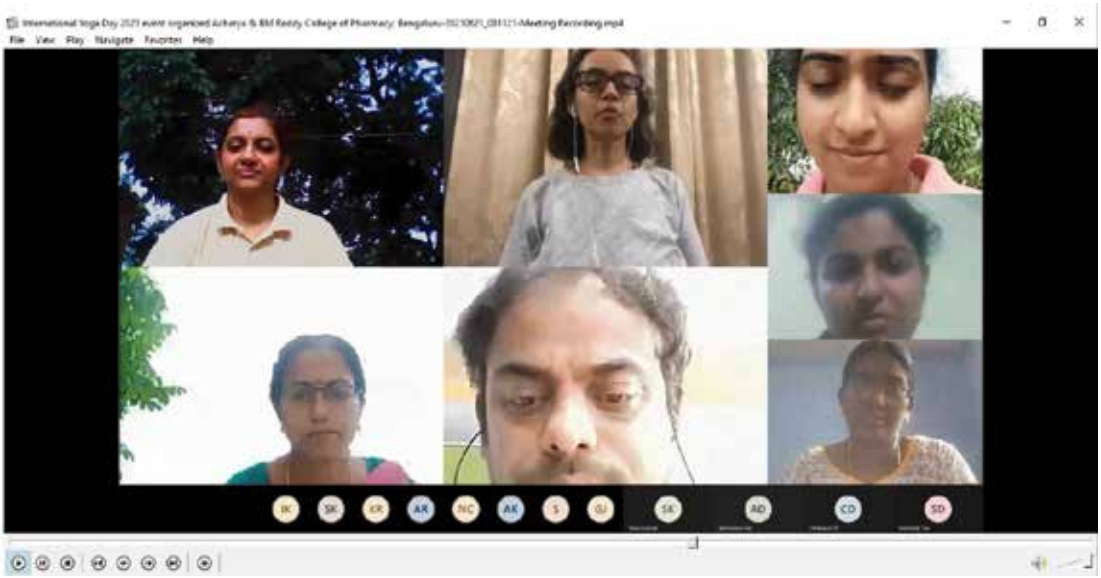
WORLD TUBERCULOSIS DAY
27 MARCH 2021

ALUMNI TALK
03 APRIL 2021

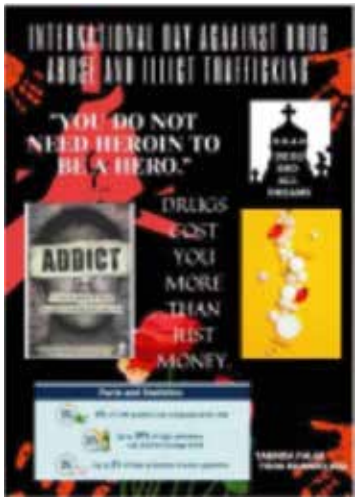
WORLD HAEMOPHILIA
DAY 17 APRIL 2021

WORLD BOOK & COPYRIGHT DAY
BOOK EXHIBITION
23 APRIL 2021

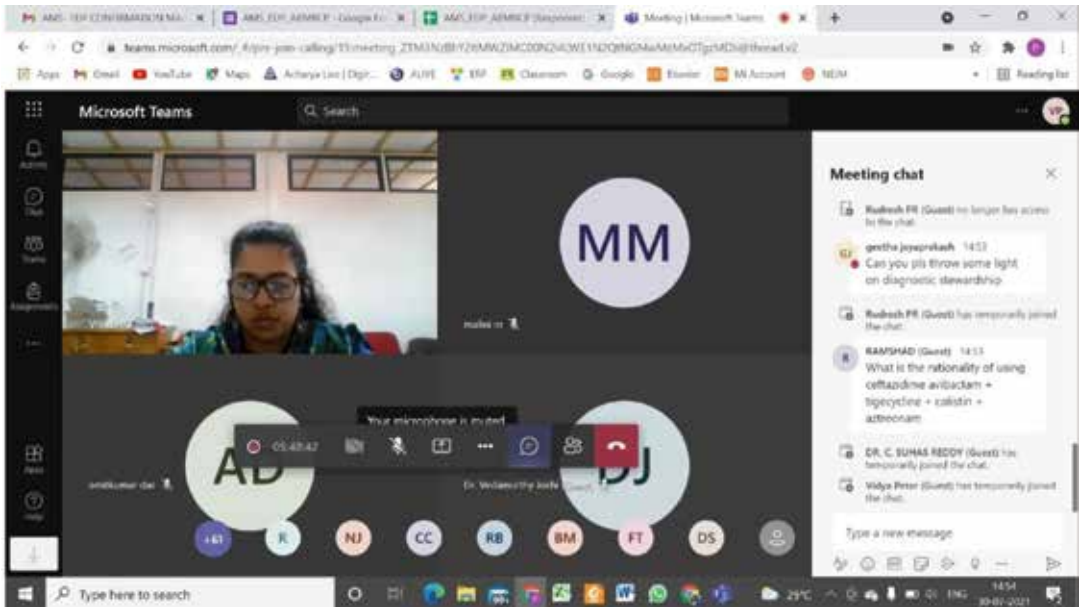
WORLD BLOOD DONOR DAY
14 JUNE 2021



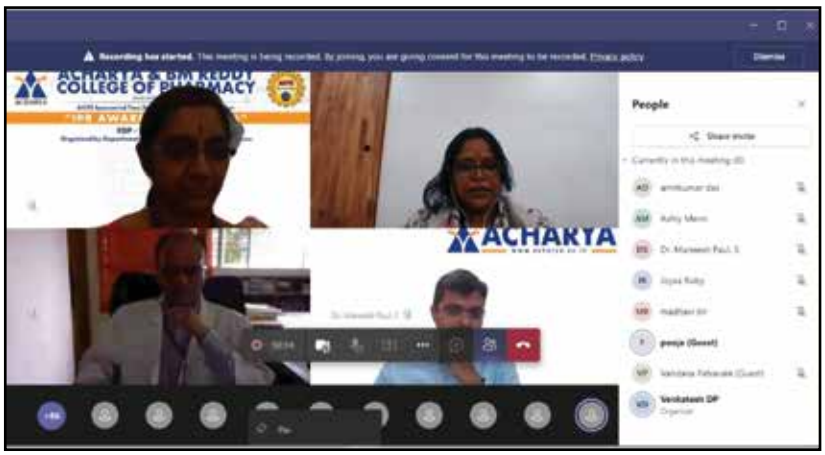
INTERNATIONAL YOGA DAY - 21 JUNE 2021



INTERNATIONAL DRUG ABUSE PREVENTION DAY - 26 JUNE 2021



FDP ON ANTIMICROBIAL STEWARDSHIP 30-31 JULY 2021



AICTE SPONSORED
NATIONAL
E-CONFEFRENCE ON
IPR AWARENESS IN
INDIA
9 - 10 AUGUST 2021

AICTE SPONSORED
NATIONAL
E-CONFEFRENCE ON
IPR AWARENESS IN
INDIA
9 - 10 AUGUST 2021

POSHAN MAAH - YOGA
AT WORKPLACE
4 SEPTEMBER 2021

Other Events Conducted:

World Water Day 22nd March 2021

World Autism Awareness Day 2nd April 2021

World Health Day 7th April 2021

World Malaria Day 26th April 2021

World Environment Day 5th June 2021

World Hepatitis Day 28th July 2021

World Organ Donation Day 13th August 2021

Freshers Personality Hunt 2021

International Youth Day 2021 12th August 2021

Alumni Webinars

DISPLAY BOARD RECAP

ACTIVITY COORDINATORS
STUDENT: DWAIPAYAN DHAR
FACULTY : DR. MADHAVI BLR

4.02.21 QUOTE OF THE DAY:
The greatest glory in living lies not in never falling, but in rising every time we fall. -Nelson Mandela.

6.02.21 QUOTE OF THE DAY:
Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma – which is living with the results of other people's thinking. -Steve Jobs

9.02.21 PHARMA TRIVIA:
Most people think that Rx is derived from the Latin word "recipe", meaning "take", but another interesting theory suggests that it evolved from the Eye of Horus, an Egyptian symbol believed to have healing powers. Pharmacies and drugstores have been around for a long time. The world's oldest prescriptions were etched into tablets around 2100 B.C. and Baghdad was home to some of the earliest drugstores, dating as far back as the eighth century.

11.02.21 QUOTE OF THE DAY:
If you look at what you have in life, you'll always have more. If you look at what you don't have in life, you'll never have enough. -Oprah Winfrey.

13.02.21 PHARMA TRIVIA:
In 1886, pharmacist John S. Pemberton created Coca-Cola as a treatment for most common ailments. His bookkeeper, Frank Robinson, names the drink and writes it down in the loopy, flowing handwriting that became known as the brand's logo. The drink was based on cocaine from the coca leaf and caffeinated extracts from a kola nut – hence the name, Coca-Cola. The cocaine was removed from the recipes in 1903. Pemberton sold his syrup to Atlanta soda fountains, and the rest is history.

If you set your goals ridiculously high and it's a failure, you will fail above everyone else's success. -James Cameron

17.02.21 QUOTE OF THE DAY:
Spread love everywhere you go. Let no one ever come to you without leaving happier. -Mother Teresa.

19.02.21 PHARMA TRIVIA:
Myalept, a drug meant to treat a rare orphan disease, costs $71,306. It is used to treat a very rare condition called generalized lipodystrophy in which abnormal fat is distributed throughout the body. Myalept is the only drug available to treat this disease. People with the condition self-administer the drug once a day, using about 14 vials a month. Each vial costs about $5,000.

22.02.21 QUOTE OF THE DAY:
Always remember that you are absolutely unique. Just like everyone else. -Margaret Mead

24.02.21 PHARMA TRIVIA:
Listerine was invented by Dr. Joseph Lawrence who chose to name his work after someone who inspired him. Joseph Lister was an English doctor and surgeon who believed in the concept of using sterilization and antiseptics in the operating room. Because of this practice, more patients survived surgeries and countless infections were prevented. Lawrence took this idea and used it to create a product that could kill germs in your mouth the same way.

26.02.21 QUOTE OF THE DAY:
Don't judge each day by the harvest you reap but by the seeds that you plant. -Robert Louis Stevenson

4.03.21 PHARMA TRIVIA:
Dr. Pepper originated at Morrison's Old Corner Drug Store. It was invented by a young pharmacist named Charles Alderton who sought out to create a syrup that smelled like a drugstore. Alderton loved the way the scents of the syrups at the soda fountain mixed together and wafter through the air and captured that scent in a drink. He tried different combinations of syrup, keeping a journal of his experiments until he landed on a combination that was just right.

6.03 .21 QUOTE OF THE DAY:
Tell me and I forget. Teach me and I remember. Involve me and I learn. -Benjamin Franklin

8.03.21 QUOTE OF THE DAY:
The best and most beautiful things in the world cannot be seen or even touched — they must be felt with the heart. -Helen Keller

12.03.21 PHARMA TRIVIA:
The Industrial Revolution brought the technology necessary for mass-producing the first commercial drug, antipyrine. It was sold to customers in a dosed pre-packaged form. Most pharmacists still custom made a lot of medications from raw ingredients to suit individual patients, but the technology continued to advance. Tablets and enteric-coated tablets were introduced in 1884, and the gelatin capsule was first mass-produced in 1875. By the 1900s, most pharmacies stocked their shelves with prefabricated medications.

17.03.21 PHARMA TRIVIA:
Louisiana was the first star to require pharmacists to be licensed. A French immigrant named Louis Dufilho, Jr. became the first licensed pharmacist in the county in 1816. He opened his own pharmacy in 1823 in New Orleans, where he offered traditional medications as well as Voodoo remedies, opium, leeches, and a soda fountain.

19.03.21 QUOTE OF THE DAY:
Do not go where the path may lead, go instead where there is no path and leave a trail. -Ralph Waldo Emerson

5.04.21 QUOTE OF THE DAY:
The greatest glory in living lies not in never falling, but in rising every time we fall. -Nelson Mandela

7.04.21 PHARMA TRIVIA:
Benjamin Franklin was a pharmacist, while Agatha Christie was a pharmacy technician.

9.04.21 QUOTE OF THE DAY:
In the end, it's not the years in your life that count. It's the life in your years. -Abraham Lincoln

16.04.21 PHARMA TRIVIA:
Lipitor is the best-selling drug ever. It was presented in 1997 and its patent expired in 2011, making about $125 billion.

19.04.21 QUOTE OF THE DAY:
Many of life's failures are people who did not realize how close they were to success when they gave up. -Thomas A. Edison

21.04.21 QUOTE OF THE DAY:
"Only a life lived for others is a life worthwhile." -Albert Einstein

23.04.21 QUOTE OF THE DAY:
"The greatest glory in living lies not in never falling, but in rising every time we fall." -Nelson Mandela

26.04.21 PHARMA TRIVIA:
Hydrocodone/acetaminophen is the most regularly recommended medicine in the United States. Lisinopril is No. 2, as of 2014.

28.04.21 QUOTE OF THE DAY:
Love the life you live. Live the life you love. -Bob Marley

30.04.21 PHARMA TRIVIA:
The most costly drug is Glybera at a wholesale cost of $1.21 million every year. It is a gene therapy that reestablishes lipoprotein lipase enzyme action in those with familial lipoprotein lipase deficiency. Just 1 million patients have this very uncommon condition.

2.08.21 QUOTE OF THE DAY:
Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma — which is living with the results of other people's thinking. -Steve Jobs

4.08.21 QUOTE OF THE DAY:
"Keep smiling, because life is a beautiful thing and there's so much to smile about." -Marilyn Monroe

6.08.21 QUOTE OF THE DAY:
Success is not final; failure is not fatal: It is the courage to continue that counts. -Winston S. Churchill

10.08.21 PHARMA TRIVIA:
Here's some irony for you: IgnazSemmelweis figured out that doctors need to wash their hands after performing an autopsy on another doctor who got sick from cutting his finger during surgery.

12.08.21 QUOTE OF THE DAY:
The real test is not whether you avoid this failure, because you won't. It's whether you let it harden or shame you into inaction, or whether you learn from it; whether you choose to persevere. -Barack Obama.

5.04.21 QUOTE OF THE DAY:
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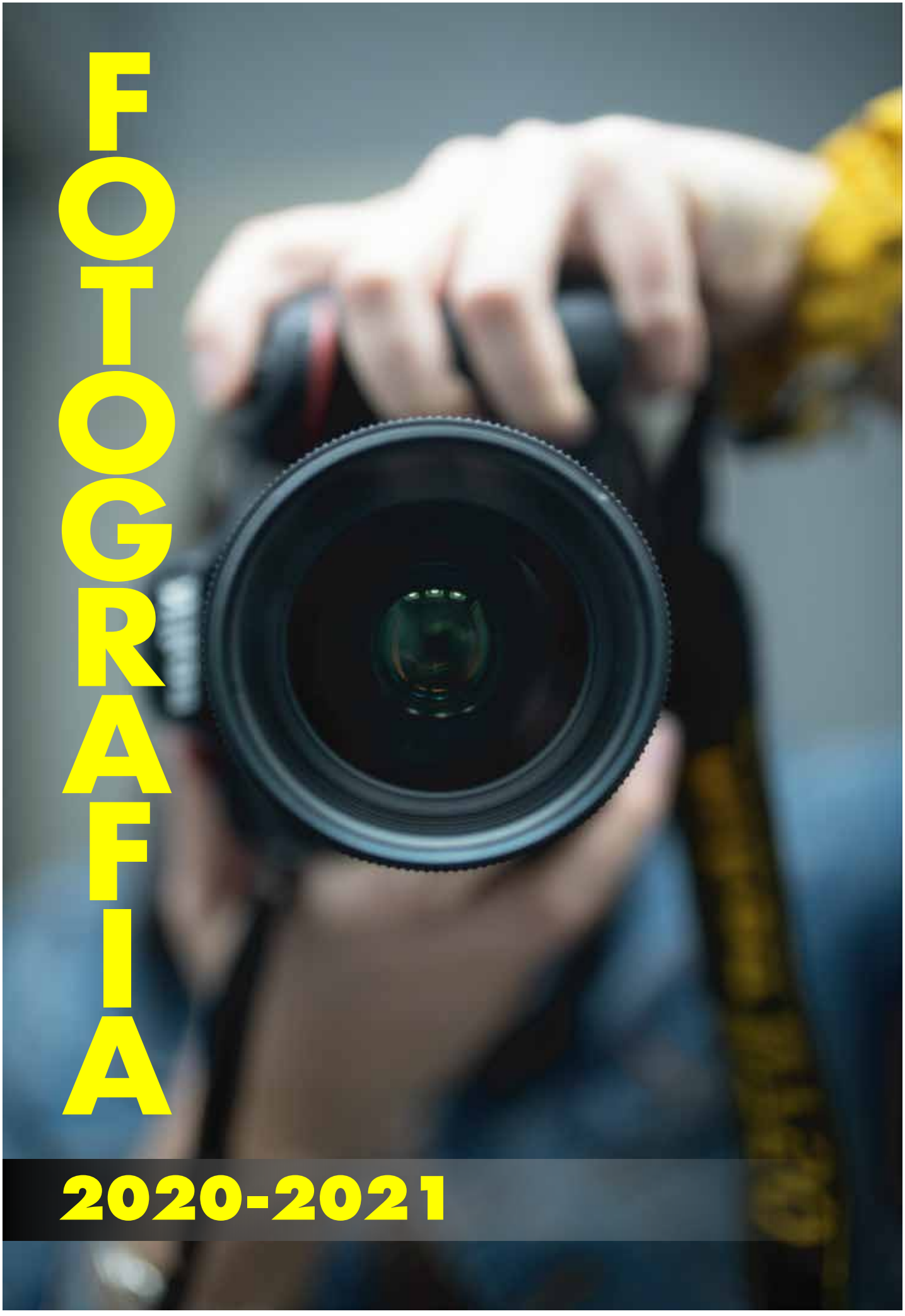
FOTOGRAFIA
2020-2021

Teaching Staff

Administrative Staff

Non-Teaching Staff

I D.Pharm

I B.Pharm

II B.Pharm

III B.Pharm

IV B.Pharm

I Pharm.D

II Pharm.D

III Pharm.D

IV & V Pharm.D

I M.Pharm

II M.Pharm

Dept of Pharmaceutical Chemistry – Staff, Research Scholars and M.Pharm students

Dept of Pharmaceutics – Staff and M.Pharm students

Dept of Pharmacology – Staff and M.Pharm students

Dept of Pharmceutical Quality Assurance – Staff and I M.Pharm students

Dept of Pharmaceutical Regulatory Affairs – Staff and I M.Pharm students

Dept of Pharmaceutical Regulatory Affairs – Staff and II M. Pharm students

ACHIEVEMENTS

Accredited by NBA twice

NIRF all India rank 60 in 2021

A+ Certification by NAAC
(CGPA 3.26 on 4)

Recognised as Scientific &
Industrial Research organisation
by Department of Science
and Technology

MHRD approved Institution
Innovation Council

Signed an agreement with
United States
Pharmacopoeia (USP) on
9/9/2021

ARIIA ranking - 'Band B'
(Rank 26-50) Institution (Aug 2020)

PROGRAMS OFFERED

Diploma in Pharmacy

Bachelor of Pharmacy

Doctor of Pharmacy

Doctor of Pharmacy (Post Baccalaureate)

MASTER OF PHARMACY

Pharmacology

Pharmaceutics

Pharmaceutical Chemistry

Pharmaceutical Quality Assurance

Pharmaceutical Analysis

Pharmaceutical Regulatory Affairs

PhD in Pharmaceutical Sciences

Pharmacology

Pharmaceutics

Pharmaceutical Chemistry

Pharmaceutical Analysis

Pharmacy Practice

ACHARYA & BM REDDY COLLEGE OF PHARMACY

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