



The NGSMIPS Herald

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Institute of Pharmaceutical Sciences, Mangalore



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Placebo Effect

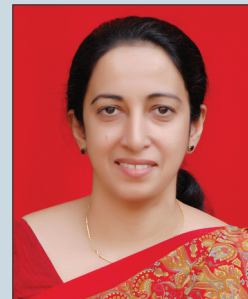
VISION

To build a humane society through excellence in education and health care.

MISSION

To develop Nitte University as a centre of excellence, imparting quality education, generating competent, skilled manpower to face the scientific and social challenges with a high degree of credibility, integrity, ethical standards and social concern.

'For Private Circulation Only'



From the Editor's desk

When, Prime Minister Modi coined the phrase '**Make in India**' on the ramparts of the Red Fort, during his maiden Independence Day speech, there was a wave of hope among investors and manufacturers. Apart from 24 other sectors, the Make in India initiative would also cover the Pharmaceutical division and would definitely be a shot in the arm for the Indian Pharmaceutical Industry. This boost in manufacturing will be expected to create employment for millions besides improving growth prospects for the Indian manufacturers of active pharmaceutical ingredient (API) instead of depending on China for a range of excipients and intermediates. The future indeed seems bright as this would mean better job opportunities for our pharma graduates in the Industry. However a sore point among the MNCs and Global Pharma is India's patent laws and its stand on Intellectual Property Rights and would not want to invest unless there is a change in these laws. On the other hand much of India's population as well as that of third world countries has access to affordable drugs made by Indian generic drug manufacturers. Therefore the government under Modi would have the difficult task of finding a middle road to creating an environment conducive for MNCs and that which would ensure inexpensive drugs. Let us hope that they do find one.

Dr. Marina Koland
Executive Editor

Vanamahothsava



Teacher's Day Celebrations



CAMPUS BUZZ

Vanamahotsava 2014

The NSS cell of the NGSM Institute of Pharmaceutical Sciences organized “Vanamahotsava” programme on 21st August 2014. The chief guest Dr. Muralee Mohan Choontharu, NSS Co-ordinator, Nitte University was invited to plant saplings and inaugurate the programme which was attended by staff, students and NSS volunteers. In a brief speech during the ceremony, the Principal, Dr. C.S. Shastry emphasized the significance of taking corrective measures such as afforestation to maintain the ecological balance before it's too late. The N.S.S Program officer, Mr. Santanu thanked the staff and NSS student volunteers for their active participation.

NGSMIPS celebrates Onam

Onam, the harvest festival of God's own country, Kerala was celebrated on September 4, 2014 by the students and faculty of NGSMIPS with much vivacity. The day long festivities included dances, competitions in 'pookalam' (flower carpets), Malayali traditional wear and sports events such as 'Tug of War', sack race etc. Prizes were distributed to the winners.

Guest Lectures



Dr. P.K. Kulkarni

Dr. P. K. Kulkarni, Vice Principal and Professor of JSS College of Pharmacy, JSS University Mysore was invited to speak on, “Drug Discovery: Concept to realization” to students and faculty on August 16, 2014. The lecture covered various aspects of drug development, synthesizing new molecules with the purpose of commercialization and their regulatory requirement for approval in the Indian market. Dr. Kulkarni also gave an

overview on the procedures that were involved in patenting of research work and suggested an interdisciplinary approach towards drug development.



Mr. Srivatsa Rao

Lectures on Regulatory affairs were arranged for the students of Final Year B.Pharm and M.Pharm. The resource person was Mr. Srivatsa Rao, Sr. Manager, Regulatory Sciences, Biocon Ltd, Bangalore. Mr. Rao spoke about the role of Regulatory Affairs professional in the development of a drug product from synthesizing a new molecule to its commercialization in Market for human use. The students were

also briefed on the Emerging Markets and the various challenges (language and climatic barriers, rigidity to regulations etc.) faced during the registration of products in these markets.



Dr. K Ishwar Bhat presents a bouquet to Dr. Vishwanath

On 27th September 2014, the NGSMIPS was honored to have a stalwart such as Dr. S. Viswanath, Chief Scientist & Dy. Director (Retd.), National Aerospace Laboratories address the students and

staff. The lecture arranged at the NIBF auditorium was on “Self-education or Constant Learning as a Secret of Success” in which Dr. Vishwanath shared interesting and inspiring thoughts for self-realization and achieving the full potential of the self through self-realization. Invited guests from sister institutions of the Nitte University were also present.

Teacher's Day celebrations

Students of NGSMIPS honoured their teachers by organizing a small program on 5th September 2014. The function commenced with the lighting of the lamp by Dr. R. Narayana Charyulu. Several students expressed their gratitude to teachers for their service and presented floral tributes, followed by refreshments. These thoughtful gestures were acknowledged by several teachers.

Student Council Inauguration and Freshers Day

The Student Council of NGSMIPS for the academic year 2014-2015 was inaugurated on Sept. 13, 2014. The Chief Guest invited for this occasion was Mr. Srivatsa Rao, Sr. Manager, Regulatory Sciences, Biocon Ltd, Bangalore. In his address, Mr. Rao



Lighting of the Inaugural Lamp by Mr. Srivatsa Rao

spoke of the merits of using textbooks as the sources of knowledge rather than relying heavily on the internet irrespective of the increasing role that the latter plays in our daily lives. Dr. C.S. Shastry, Principal, in his speech said that the rapid growth of the Indian pharmaceutical sector will ensure opportunities for employment and entrepreneurship for the pharma graduates in the near future. The outgoing student council president Mr. Anil Kumar shared his experience and along with his team members handed over charge to the newly elected president Mr. Jestin G. Joseph and his new team.

The evening also gave occasion for the Freshers of B.Pharm and Pharm D to show off their talents. The variety entertainment program that followed also included a few competitions for the Freshers. Mr. Shanfar and Ms. Anila were adjudged as Mr. Fresher and Ms. Fresher 2014

Ph.D Award



Mr. Prasanna Shama Khandige

Mr. Prasanna Shama Khandige, Assistant Professor, Department of Pharmacology, Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, has been awarded the degree of Doctor of Philosophy (Ph.D) in Pharmaceutical Sciences by the Nitte University, Deralalakatte, Mangalore for his dissertation entitled “Phytochemical and Pharmacological Investigation of *Bauhinia purpurea* and *Moringaoleifera*” under the guidance of Prof (Dr) C.S. Shastry, Principal & Head, Department of Pharmacology, NGSMIPS, Mangalore

Rational Use of Antibiotics in Hospital and Community Acquired Infections

Compiled by:

Mr. Ananth Prabhu and Mr. Shanon Ben Mascarenhas

II M Pharm

Dept. of Pharmaceutics

Antibiotics are the most important weapons for the treatment of many infectious diseases caused by bacteria. However, indiscriminate use of these lifesaving drugs resulted in the development of drug resistance in many organisms and deaths due to hospital-acquired infections is on the rise.

Effects of irrational use

- Increased treatment costs.
- Interferences with patient's normal flora.
- Selection of drug resistant organisms.
- Increased incidence of untoward side effects.

Rational Use of Antibiotics

The conference of experts on the rational use of drugs, convened by the WHO in Nairobi in 1985 defined that "Rational use of drugs require that patients receive medications appropriately to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, at a lowest cost them and their community"

- Problems related to overuse of antibiotics outside hospitals e.g., RTI, AOM, UUTI, diarrhoea, dental complaints.
- Alarming reports of community-onset infections by resistant bacteria, e.g., MRSA infections. These causes have necessitated the urgency of promoting appropriate antibiotic use in community-settings.

These can be prevented by:

- Continuous surveillance of bacterial infections
- (HA and CA infections).
- Identification of the pathogenic flora.
- Systemic monitoring and surveillance of antibiotic susceptibility and resistance of Bacterial pathogens.

Antibiotic policies in hospitals

To upgrade the quality of the patient care it is necessary to promote the best practice in antibiotic prophylaxis and therapy.

- To make better use of resources by using cheaper drugs wherever possible.
- To retard the emergence and spread of multiple antibiotic resistant bacteria.
- To improve education of doctors in appropriate use.
- To eliminate the use of unnecessary or ineffective antibiotics and restrict the use of expensive antibiotics.

Components of antibiotic policy

- Direction
- Education
- Monitoring and evaluation

Organizational structure of antibiotic policy- Antibiotic Committee

The antibiotic committee must consist of the following members:

- ✓ The hospital pharmacist
- ✓ The microbiologist
- ✓ Clinical doctors
- ✓ Administrative key person
- ✓ Other members co-opted as necessary.

Role of the microbiology laboratory

- Provides regular updates on antibiotic susceptibility of bacterial isolates from the local area. This will assist in producing effective guidance for the local population.

- Alerts the emergence of resistance to certain agents that so that the inclusion of those agents in the guidelines can be reviewed.
- When resources for microbiology are scarce, priority given to samples from nosocomial, life threatening cases, or arrangements should be made for microbiology tests with a referral hospital.
- When no local microbiology laboratory exists antibiotic policy is based upon a basic formulary, if possible established after consultation with regional or national groups.

Factors responsible for inappropriate use in community

Managed care factors:

- Cost-saving pressure to substitute therapy for diagnostic tests
- Reduced appointment time/patient, less explanation time
- Responsiveness to patient complaint about "inadequate antibiotic use"

Industry factors:

- Misleading or erroneous advertising
- Promotion issues

These can be prevented by,

- Prohibiting the sale of antibiotics without medical prescription
- Development and passage of other strict regulations by Ministries of Health & other Ministries, regarding responsible prescription and dispensing of antibiotics.
- Unambiguous prohibition of advertising of antibiotics in the community by industry and pharmaceutical representatives.

The role of the Community pharmacist:

1. The Pharmacist should be able to prescribe certain antibiotics in appropriate circumstances to patients needing treatment for particular conditions
2. Advice to patients to ensure that the patient understands that:
 - Every consultation about infection, may not lead to antibiotic prescription.
 - There is difference between bacterial and viral infections.
 - Help and encourage Health Authorities to generate antibiotic policies and treatment guidelines. The pharmacist is well positioned to ensure the implementation of the policies and guidelines

Antimicrobials are the great discovery of the 20th century. But the miracle seems to come to an end. Inappropriate use of these life-saving instruments has resulted in many problems. On the other hand, not many new antimicrobial molecules have been discovered since the 1980s and funding on antimicrobial research is on the decline. Now, we have to fight against the irrational use to save these important discoveries of man from extinction.

REFERENCES:

1. Amer FA. Rational Use of Antibiotics in Hospital- and Community-Acquired Infections. Arab Alliance for the Prudent Use of Antimicrobials. pp:22-25.
2. Ali MH, Kalima P, Maxwell SRJ. Failure to implement hospital antimicrobial prescribing guidelines: a comparison of two UK academic centres. J Antimicrob Chemother 2006; 57:959-62.

DEPARTMENT ACTIVITIES

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

RESEARCH PUBLICATIONS

DR. K. ISHWAR BHAT, Professor

1. Synthesis, Antimicrobial, Antitubercular and Cytotoxic Studies of Some Pyrimidine Derivatives Derived from Chalcones. *World Journal of Pharmacy and Pharmaceutical Sciences*. 2014;3(8):1432-1439.
2. Synthesis and Biological Evaluation of Some Novel Pyrimidine Derivatives Derived from Chalcones. *Research J Pharm and Tech*. 2014;7(9):995-998.

MR. PANKAJ KUMAR, Asst. Professor

Synthesis and Antimicrobial Evaluation of Benzo Thiazinen Derivatives. *International Journal of Pharmaceutical Sciences and Drug Research*. 2014;6(3):197-199.

MR. ABHISHEK KUMAR, Asst. Professor

1. Synthesis, Antimicrobial and Anti-inflammatory Studies of Some Novel Schiff Base Derivatives. *International Journal of Drug Development and Research*. 2014;6(2):165-171.
2. Synthesis and Biological Evaluation of Some Novel Schiff Bases of 2-Quinolones. *International Journal of Pharmacy and Pharmaceutical Sciences*. 2014;6(8):518-521.

PAPERS PRESENTED AT CONFERENCES

The following faculty members participated and presented their research papers at the Amrita Pharmaceutical Conference (APC 2014) on "Infectious Diseases - A Medicinal Chemistry Perspective" at Amrita Vishwa Vidyapeetham University, Kochi, Kerala on 29th and 30th August 2014.

Dr. Jennifer Fernandes

"Phytochemical investigation and screening of antiulcer activity of stem bark of *Ficus bengalensis* linn".

Dr. Jane Jacob

"Simultaneous estimation of Metoprolol and Telmisartan in bulk and dosage form".

Dr. Prerana Shetty

"Phytochemical analysis and antiulcer activity of alcoholic extract of *Costus igneus* leaves".

Mr. Abhishek Kumar

"Synthesis, Antimicrobial and Cytotoxicity Activities of Newly Synthesized Pyrimidine Incorporated 2-Quinolones"

DEPARTMENT OF PHARMACEUTICS

RESEARCH PUBLICATIONS

DR. R. NARAYANA CHARYULU, Professor

1. Simultaneous Analysis and Validation of Ciprofloxacin-Diclofenac and Tetracycline-Diclofenac by using UV Spectrophotometer. *International Journal of Pharmaceutical Sciences Review and Research*, 28 (1), Sept-Oct. 2014, Article No. 39, pp. 207-213
2. Formulation and Evaluation of Buccoadhesive Compacts of Lacidipine. *Elixir Pharmacy* 73, Aug. 2014, pp. 26035-26041

DR. MUDIT DIXIT, Asst. Professor

1. Enhancing Solubility and Dissolution of Celecoxib by Freeze drying using α -cyclodextrin. *Elixir Pharmacy* 75 (2014), pp.27553-27558.
2. Enhancing Solubility and Dissolution of Itraconazole by Spray Drying Using Pluronic F-68. *World Journal of Pharmaceutical Research*, Vol. 6, Issue 8, Aug. 2014, pp.941-953
3. Formulation and Evaluation of Transdermal Drug Delivery of Piroxicam. *Trends in Drug Delivery*, Vol 1, Issue 2, 2014, pp. 8-13
4. Pharmaceutical Product Registration Requirements in ASEAN & CIS Countries. Research and Reviews: *A Journal of Drug Formulation, Development and Production*, Vol. 1, Issue 2, 2014, pp. 6-10
5. Characterization of Tableting Properties of Mango Gum. Research & Reviews: *A Journal of Drug Formulation, Development and Production*, Vol 1, Issue 1, 2014, pp.25-33

Dr. Mudit Dixit is currently on the Editorial Board of the following journals:

1. Research & Reviews: A Journal of Drug Design & Discovery.
2. A Journal of Drug Formulation, Development and Production
3. Trends in Drug Delivery

MR. AMIT PATIL, Asst. Professor

1. Influence of Solubilising Agents on Atenolol Fast Dissolving Orodispersible Films of Pullulan. *World Journal of Pharmaceutical Research*, Vol. 3, Issue 5, July 2014
2. Designing and Characterisation of Atenolol Fast Dissolving orodispersible Films using different Polymers. *World Journal of Pharmaceutical Research*, Vol. 3, Issue 6, Aug. 2014

ATTENTION DEFICIT HYPERACTIVE DISORDER (ADHD)

Compiled by: **Mr. Tushar K. Shetgaonkar**

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Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood disorders and can continue through adolescence and adulthood. It is a psychiatric disorder of the neurodevelopmental type in which there are significant problems of attention, hyperactivity, or acting impulsively.

ADHD has three subtypes:

- Predominantly hyperactive-impulsive
- Predominantly inattentive
- Combined hyperactive-impulsive and inattentive

Causes:

Scientists are not sure what causes ADHD, although many studies suggest that genes play a large role. Like many other illnesses, ADHD probably results from a combination of factors. In addition to genetics, researchers are looking at possible environmental factors, and are studying how brain injuries, nutrition, and the social environment might contribute to ADHD. Results from several international studies of twins show that ADHD often runs in families. Researchers are looking at several genes that may make people more likely to develop the disorder. Knowing the genes involved may one day help researchers prevent the disorder before symptoms develop. Learning about specific genes could also lead to better treatments.

Signs & Symptoms:

- Difficulty in paying attention
- Forgetful
- Can't follow instructions
- Interrupts or talks excessively
- Can be disorganized or careless
- Has trouble playing quietly in a group
- Restless or jittery
- Has trouble focusing on a task at school or home
- Oppositional defiant disorder
- Conduct disorder
- Bipolar disorder

Diagnosis:

Children mature at different rates and have different personalities, temperaments, and energy levels. Most children get distracted, act impulsively, and struggle to concentrate at

one time or another. Sometimes, these normal factors may be mistaken for ADHD. ADHD symptoms usually appear early in life, often between the ages of 3 and 6, and because symptoms vary from person to person, the disorder can be hard to diagnose. Often, teachers notice the symptoms first, when a child has trouble following rules, or frequently “spaces out” in the classroom or on the playground. No single test can diagnose a child as having ADHD. Instead, a licensed health professional needs to gather information about the child, and his or her behavior and environment. The specialist pays close attention to the child's behavior during different situations. Some situations are highly structured, some have less structure. Others would require the child to keep paying attention.

Treatment:

Currently available treatment focus on reducing the symptoms of ADHD and improving functioning. Treatments include medication, various types of psychotherapy, education or training, or a combination of treatments.

Treatments can relieve many of the disorder's symptoms, but there is no cure. With treatment, most people with ADHD can be successful in school and lead productive lives. Researchers are developing more effective treatments and interventions, and using new tools such as brain imaging, to better understand ADHD and to find more effective ways to treat and prevent it. The most common type of medication used for treating ADHD are called “stimulants” such as amphetamine, methylphenidate, dextroamphetamine, methylphenidate etc. prescribed according to the age.

Living With:

Tips to Help Kids Stay Organized and Follow Directions

- Schedule
- Organize everyday items.
- Use homework and notebook organizers
- Give praise or rewards when rules are followed.

Sources:

www.psychcentral.com/disorders/adhd.

www.nlm.nih.gov/health/.../attention-deficit-hyperactivity-disorder.

www.webmd.com/add-adhd.

Placebo Effect: *A Cure in the Mind &* Nocebo Effect: *worried sick.*

Mr. Nirmal Deshpabhu
II M.Pharm
Dept. of Pharmaceutics

PLACEBO EFFECT

The placebo effect (Latin placebo = “*I shall please*”) has been known for years. A placebo is a treatment that has no active ingredients, no logical reason to have any effect, a sugar pill. The placebo effect is when this inactive treatment provides active results. For instance, placebo has helped alleviate pain, lower blood pressure, even cured cancers the list could go on and on.

Belief is powerful medicine, even if the treatment itself is a sham. Researchers are suggesting that a minimum of 1/3rd of all medical treatments including surgery is due to the belief that the treatment is going to work. New research has shown that placebos can also benefit patients who do not have faith in them.

HOW DOES THE PLACEBO EFFECT WORK?

Actual mechanism of how placebo works is still unknown but research on the placebo effect has focused on the relationship of mind and body. One of the most common theories is that the placebo effect is due to a person's perceptions and expectations.



If a person expects a pill to do something, then it's possible that the body's own chemistry can cause effects similar to what a medication might have caused. Experts also say that there is a relationship between how strongly a person expects to have results and whether or not results occur. The healing environment, the attitudes of the medical personnel, beliefs and trust in medical procedures, can all induce expectations of a therapeutic outcome. Neurobiological mechanisms show that dopamine and the endorphins have been clearly associated to be the mediators of placebo effects.

NOCEBO EFFECT

The same mind-body power that can heal you can also harm you. Many people are unaware of it, it's called the **nocebo effect** (meaning “*I shall harm*”) is the dastardly sibling of placebo (“*I shall please*”). Put simply, it is the phenomenon in which inert



substances or mere suggestions of substances actually bring about *negative* effects in a patient or research participant. For some, being informed of a pill or procedure's potential side effects is enough to bring on real-life symptoms.

In 2007 researchers discovered that the hypothalamic-pituitary-adrenal axis in the brain, an important part of the body's “stress system,” is activated during a nocebo response, as detected by an increase in the secretion of the hormones ACTH, from the pituitary gland, and cortisol, from the adrenal gland, both markers of anxiety.

What can be concluded is such phenomena are directly related to our subconscious thinking. Optimistic thinking will give positive results and vice versa. Interactions with the physician can strengthen a patient's positive expectation and increase the likelihood of improved health, it is entirely consistent with good clinical practices to optimize the therapeutic environment in a manner that promotes healing.

References:

www.smithsonianmag.com
www.harvard.edu
www.the-scientist.com
www.psychologytoday.com

Student Council Inauguration and Freshers Day



Onam Celebrations



Book Post