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# MESSAGE FROM THE DESK OF THE EDITOR

It gives us immense joy and satisfaction to introduce the first issue of 2018 of magazine 'Pharma Innovations'. I hope you enjoy reading the magazine which will be beneficial to enrich your knowledge in Pharmacy, medicines and health. As always in this issue also an attempt to bring out the knowledge concealed within the students and faculty. Before looking ahead, however, I would like to offer a word of thanks to our readers, our contributors, and our editorial board for their support of the journal and its mission I hope you enjoy reading this issue as much as we have enjoyed making it.

**DR. R. MAZUMDER**  
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# MESSAGE FROM THE DESK OF THE ASSOCIATED EDITOR

“Pharma Innovations” is a right platform for the faculty and students for sharing the views and the innovative research and knowledge in Pharmacy, medicines and health. Its really a great thing for bringing out the first issue of 2018 with good quality papers that will enhance the depth of knowledge treasury. I am firm about the ensuing issues of the magazine with regard to quality and coverage. I wish the magazine for its attempt and continuity of its tempo in the same direction in the days to come.

**DR SANJITA DAS**  
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# FACULTY FORUM

# PHARMACOVIGILANCE AND PACLITAXEL

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Pharmacovigilance also known as Drug Safety, is the pharmacological science relating to the collection, detection, assessment, monitoring, and prevention of adverse effects with pharmaceutical products. Pharmacovigilance heavily focuses on Adverse drug reactions , Serious adverse drug reactions and Unexpected ADRs. ADRs are defined as any response to a drug which is noxious and unintended, including lack of efficacy, which occurs at doses normally used for the prophylaxis, diagnosis or therapy of disease, or for the modification of physiological function. Medication errors such as overdose, and misuse and abuse of a drug, are also of interest because they may result in an ADR. It heavily focuses on adverse drug reactions (ADRs), serious adverse drug reactions and unexpected adverse drug reactions. Pharmacovigilance is used to establish the safety profile of drugs in humans. The objective of the study was to evaluate Adverse drug reactions associated with Paclitaxel and to compare the two different formulations of Paclitaxel i.e. Nab paclitaxel (albumin bound paclitaxel) and non albumin bound paclitaxel. A total of 91 adverse drug reactions were observed in patients on Paclitaxel therapy and various parameters were analysed including yearly and gender wise ADR distribution by Pacliatxel and Nab paclitaxel, Indication wise use in gender, yearly and gender wise serious adverse drug reactions distribution and System organ class distribution in gender. Nab-paclitaxel (albumin bound paclitaxel) is significantly more effective than paclitaxel formulated as Cremophor EL (CrEL, Taxol, CrEL-paclitaxel), with almost double the response rate, increased time to disease progression and increased survival in patients. The absence of CrEL from the formulation is associated with decreased neutropenia as compared with CrEL-paclitaxel. Nab technology has increased the therapeutic index of paclitaxel and well tolerable as compared with the conventional, solvent-based formulation and thus albumin bound paclitaxel have better safety profile than conventional paclitaxel. The availability of new drugs, such as Abraxane (albumin bound paclitaxel), in association with other traditional and non-traditional drugs will give the oncologist many different effective treatment options for patients.

# MEDICAL INTERNET OF THINGS (m-IOT)-THE FUTURE OF PHARMA

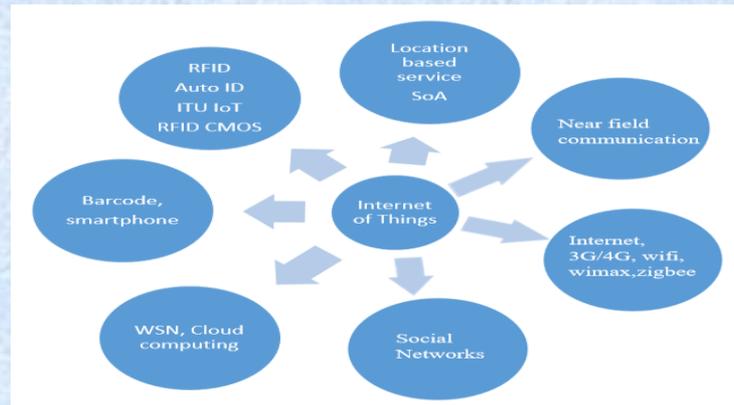
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The world is undergoing a dramatic rapid transformation from isolated systems to ubiquitous Internet-based-enabled 'things' capable of interacting each other and generating data that can be analyzed to extract valuable information. We are entering in a new era of computing technology i.e. Internet of Things (IoT). IoT is a sort of "universal global neural network" in the cloud which connects various things. Internet of Things (IoT) term represents a general concept for the ability of network devices to sense and collect data from around the world, and then share that data across the Internet where it can be processed and utilized for various interesting purposes. The IoT is comprised of smart machines interacting and communicating with other machines, objects, environments and infrastructures. Now a day's every persons are connected with each other using lots of communication way. Where most popular communication way is internet so in another word we can say internet which connect peoples. The Internet of Things (IoT) is a network of physical devices and other items, embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. The term internet of things was devised by Kevin Ashton, cofounder and executive director of Auto- ID Center at MIT in 1999 and refers to uniquely identifiable objects and their virtual representations in an "internet-like" structure.



A number of technologies can reduce overall costs for the prevention or management of chronic illnesses. The devices and mobile apps are now increasingly used and integrated with telemedicine and tele-health via the medical Internet of Things (mIoT). mIoT is a critical piece of the digital transformation of healthcare, as it allows new business models to emerge and enables changes in work processes, productivity improvements, cost containment and enhanced customer experiences. Its impact on medicine will be perhaps the most important, and personal, effect. By 2020, 40% of IoT-related technology will be health-related, more than any other category, making up a \$117 billion market. The convergence of medicine and information technologies, such as medical informatics, will transform healthcare as we know it, curbing costs, reducing inefficiencies, and saving lives. The mIoT is revamping healthcare services, as people have started using IoT to manage their health requirements. For example, people can use IoT devices to remind them about appointments, changes in blood pressure, calories burnt and much more. One of the best parts of the IoTs in the health care industry is the remote health monitoring system, where patients can be monitored and advised from anywhere. Real-time location services are another major approach IoT offers. By using the service, doctors can easily track device locations, which directly reduces excess time spent. Smartphone usage is increasing rapidly, and people have started using mobile apps for almost everything. When it comes to the healthcare industry, mobile apps can improve communications between patients and doctors over a secured connection. The primary duty of Digital Health Advisors and the clinicians will be to work collaboratively when the organization is shifting towards IoT-enabled infrastructure.

# PROBIOTICS- THE PERFECT NUTRITIONAL SUPPLEMENT

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The International Scientific Association for Probiotics and Prebiotics defines “probiotics” as “live microorganisms that, when administered in adequate amounts, confer a health benefit on the host”. These microorganisms consist mainly of bacteria but also include yeasts which are naturally present in fermented foods and are available as dietary supplements. However, not all foods and dietary supplements labelled as “probiotics” on the market have proven health benefits. Probiotics are identified by their specific strain, which includes the genus, the species, the subspecies (if applicable), and an alphanumeric strain designation. The seven core genera of microbial organisms most often used in probiotic products are *Lactobacillus*, *Bifidobacterium*, *Saccharomyces*, *Streptococcus*, *Enterococcus*, *Escherichia*, and *Bacillus*. Table- Probiotics are identified by their specific strain, which includes the genus, the species, the subspecies (if applicable), and an alphanumeric strain designation. The seven core genera of microbial organisms most often used in probiotic products are *Lactobacillus*, *Bifidobacterium*, *Saccharomyces*, *Streptococcus*, *Enterococcus*, *Escherichia*, and *Bacillus*. Table 1 shows examples of the nomenclature used for several commercial strains of probiotic organisms.

**Table 1: Nomenclature for sample commercial strains of probiotics**

<b>Genus</b>	<b>Species</b>	<b>Subspecies</b>	<b>Strain Designation</b>	<b>Strain nickname</b>
Lactobacillus	Rhamnosus	None	GG	LGG
<i>Bifidobacterium</i>	<i>Animalis</i>	<i>lactis</i>	DN-173 010	<i>Bifidus regularis</i>
<i>Bifidobacterium</i>	Longum	longum	35624	Bifantis

Probiotics exert their effects usually in the gastrointestinal tract, where they may influence the intestinal microbiota. Probiotics can transiently colonize the human gut mucosa in highly individualized patterns, depending on the baseline microbiota, probiotic strain, and gastrointestinal tract region. Probiotics also exert health effects by nonspecific, species-specific, and strain-specific mechanisms. The nonspecific mechanisms vary widely among strains, species, or even genera of commonly used probiotic supplements. These mechanisms include inhibition of the growth of pathogenic microorganisms in the gastrointestinal tract (by fostering colonization resistance, improving intestinal transit, or helping normalize a perturbed microbiota), production of bioactive metabolites (e.g., short-chain fatty acids), and reduction of luminal pH in the colon. Species-specific mechanisms can include vitamin synthesis, gut barrier reinforcement, bile salt metabolism, enzymatic activity, and toxin neutralization. These studies and meta-analyses show that exposure to probiotics during pregnancy and in early infancy might reduce the risk of developing atopic dermatitis in children. The potential health benefits of probiotics are the focus of a great deal of scientific research. This section focuses on research on the use of probiotics to prevent or treat six health conditions: atopic dermatitis, pediatric acute infectious diarrhea, antibiotic-associated diarrhea, irritable bowel syndrome, hypercholesterolemia, and obesity. Because effects of probiotics can be specific to certain probiotic species and strains, recommendations for their use in the clinic or in research studies need to be species and strain specific.

# STUDENTS FORUM

# PHARMACOLOGICAL ACTIVITY OF ANNONA SQUAMOSA: A REVIEW

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In various indigenous and traditional sources of medicine plants have been extensively used for treatments. Various parts of plants such as the leaves, fruits, the barks, roots and even the seeds are being used for preparation of medicine. Indian literatures like Ayurveda and various ancient literature have already mentioned herbal remediation for a number of human ailments. *Annona squamosa* is commonly known as custard apple in English and sitafal in Hindi having various pharmacological activity such as antidiabetic, analgesic, anti inflammatory, wound healing, antimalarial, cytotoxic, anti oxidant, anti microbial and few more. Some compounds have been isolated and reported from the extract of various part of the plant possessing good pharmacological activity. Its seed extract also evidenced for anti HIV activity and reporting with new isolated compound.



*Annona squamosa* is also been extensively used as traditional medicine in various culture. The genus name, 'Annona' is from the Latin word 'anon', meaning 'yearly produce', referring to the production of fruits of the various species in this genus. *Annona squamosa* has been named botanically from Jamaica (1,5). The leaves of the plants have been used as insecticide, anthelmintic, styptic, externally used as suppurate. Unripe and dried Fruit work as antidysenteric. Bark is used as powerful astringent, antidysenteric and vermifuge. Root bark, leaves and stems gave isoquinoline alkaloids. Powdered seeds are used to kill head-lice and fleas but care should be taken that the powder does not come in contact with the eyes as this causes great pain. More pharmacological investigation should be performed using latest technique to discover the potential of the plant.

# HERBAL EXTRACTS AND COSMETICS

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The present work focuses on the potential of herbal extracts for cosmetic purposes. The use of cosmetic have been increased in many fields in personal care system . The use of bioactive ingredients in cosmetic influence biological functions of skin and provide nutrients necessary for the healthy skin. The prepared formulations showed good spreadibility, no evidence of phase separation and good consistency during the study period. Stability parameters like visual appearance , nature and fragrance of the formulations showed that there was no significant variation during the study period. They are the products designed to cleanse , protect and change the appearance of external parts of our bodies. It includes water, emulsifiers, preservatives, thickeners, moisturizers, colors and fragrances. Ingredients can be natural occurring or artificial.

While the current scientific thinking on many of these chemicals is that they are safe to use, it is up to each consumer to make their own decision as to whether they purchase and use a product containing certain ingredients or not. Consumers should also try to purchase reputable brands from established sellers—cheap imports or copies bought online may not have been through the proper testing and assessment process and may not contain what they claim to. In our pursuit of beauty, it is wise to remember that cosmetics can be complex combinations of chemicals. Achieving even a basic understanding of the long chemical names on a product ingredient list—what they are and what they do—can go a long way to helping consumers make informed decisions about the products they choose to use—certainly helpful when putting on your best face.

# OVER-THE-COUNTER (OTC) MEDICINES

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**Over-the-counter (OTC) drugs** are medicines sold directly to a consumer without a prescription from a healthcare professional, as opposed to prescription drugs, which may be sold only to consumers possessing a valid prescription. In many countries, OTC drugs are selected by a regulatory agency ensure that they contain ingredients that are safe and effective when used without a physician's care. OTC drugs are usually regulated according to their active pharmaceutical ingredient (API) rather than final products. By regulating APIs instead of specific drug formulations, governments allow manufacturers the freedom to formulate ingredients, or combinations of ingredients, into proprietary mixtures.

The sale of over-the-counter (OTC) medicines from pharmacies can help individuals self-manage symptoms. However, some OTC medicines may be abused, with addiction and harms being increasingly recognised. This review describes the current knowledge and understanding of OTC medicine abuse. OTC medications are relatively rare as primary substances of abuse. They are more commonly noted as secondary or tertiary substances of abuse upon admission.

First, new prescription and OTC medications come on the market frequently. Second, there is wide variability in prescription and OTC drugs in relation to brand names, generic names, chemical names, and street names, which can change over time.

Misuse is defined as using an OTC product for a legitimate medical reason but in higher doses or for a longer period than recommended, e.g. taking more of a painkiller than recommended to treat headache. Abuse is the non-medical use of OTC drugs, e.g. to experience a 'high' or lose weight.

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