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New Degree Structure: Multiple Entry & Exit System under NEP 2020



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The National Education Policy (NEP) 2020 introduced a transformative reform in the higher education system of India by implementing a Multiple Entry and Exit System (MEES) in undergraduate (UG) programs. This system offers students flexibility in their academic journey by allowing them to exit and re-enter higher education at different stages, earning recognized qualifications at each level.

Key Features of the Multiple Entry & Exit System

- Four-Year Undergraduate Degree Program:** The conventional three-year UG program has been replaced with a more flexible **four-year degree structure** that allows multiple exit points.
- Academic Bank of Credits (ABC):** A digital repository where students can store and retrieve academic credits to continue education later.
- Exit Options with Recognized Certifications:**
 - Exit after 1 Year → Certificate
 - Exit after 2 Years → Diploma
 - Exit after 3 Years → Bachelor's Degree
 - Completion of 4 Years → Bachelor's Degree with Research (Honors)
- Entry/Re-entry:** Students can **pause their studies** and re-enter at a later stage by utilizing the Academic Bank of Credits.
- Interdisciplinary & Multidisciplinary Approach:** Students can pursue subjects across disciplines and shift between streams if they wish.

Degree Progression Structure

1. Certificate Program (After 1 Year of Study)
2. Diploma Program (After 2 Years of Study)
3. Bachelor's Degree (After 3 Years of Study)
4. Bachelor's Degree with Research (After 4 Years of Study)

Challenges & Implementation Strategies

Challenges

- Proper execution of the Academic Bank of Credits (ABC).
- Need for infrastructure and faculty training to support interdisciplinary learning.
- Ensuring industry acceptance of the multiple exit options.

Implementation Strategies

- Strong coordination between universities, colleges, and industry bodies.
- Digitalization of student records through ABC and National Education Technology Forum (NETF).
- Awareness campaigns to inform students and employers about the value of certificates, diplomas, and degrees under MEES.

Conclusion:

The **Multiple Entry & Exit System (MEES)** under **NEP 2020** is a landmark reform that promotes flexibility, accessibility, and skill-based education. By integrating the **Academic Bank of Credits**, interdisciplinary learning, and industry-focused courses, this system ensures that higher education in India aligns with global standards while addressing the needs of modern learners.

IMPORTANCE OF UNDERSTANDING DRUG INTERACTIONS AND PREVENTING ADVERSE DRUG EVENTS (ADEs)



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Introduction:

The world of pharmaceuticals is complex and ever-evolving, with new medications being developed and approved regularly. However, with this progress comes the potential for drug interactions and adverse drug events (ADEs), which can have serious consequences for patients. Understanding these interactions and preventing ADEs is crucial in ensuring patient safety and effective treatment outcomes.

Understanding Drug Interactions:

Drug interactions occur when one drug affects the activity of another when both are administered together. This can alter the way one or both of the drugs behave in the body, potentially leading to unexpected side effects or changes in their effectiveness.

Interactions can occur between different drugs, between drugs and food, or between drugs and certain health conditions. They can result in increased or decreased drug effectiveness, unexpected side effects, or changes in the expected course of treatment.

Understanding these interactions is crucial for healthcare providers in prescribing the most effective and safe treatment plans for their patients.

It also empowers patients to be informed participants in their own healthcare, allowing them to avoid potential interactions that could harm their health.

The Impact of Adverse Drug Events:

ADEs are injuries resulting from the use of a drug. They can occur as a result of medication errors, side effects, overdoses, and drug interactions. ADEs can range from minor side effects like nausea or dizziness to more serious consequences such as organ damage, hospitalization, or even death.

Preventing ADEs is a critical aspect of patient safety. According to the World Health Organization, ADEs are among the leading causes of morbidity and mortality in many countries around the world. They lead to increased healthcare costs due to longer hospital stays, additional medical treatment, and lost productivity.

Prevention of ADEs:

Preventing ADEs involves a multi-faceted approach. It starts with healthcare providers being knowledgeable about potential drug interactions and the side effects of medications they prescribe. They should also educate patients about the importance of taking medications as directed, the potential for interactions with other drugs or foods, and the need to report any unexpected side effects.

Patients also play a crucial role in preventing ADEs. They should be proactive in learning about their medications, following their healthcare provider's instructions, and communicating any issues or concerns.

Understanding drug interactions and preventing ADEs is crucial in the field of healthcare. It ensures the safety and well-being of patients, enhances the effectiveness of treatments, and reduces healthcare costs. Both healthcare providers and patients have important roles to play in this endeavour, making it a collective effort towards better health outcomes.

Reference:

1. Han K, Cao P, Wang Y, Xie F, Ma J, Yu M, Wang J, Xu Y, Zhang Y and Wan J (2022) A Review of Approaches for Predicting Drug–Drug Interactions Based on Machine Learning. *Front. Pharmacol.* 12:814858.
2. Drug-disease and drug-drug interactions: systematic examination of recommendations in 12 UK national clinical guidelines. *BMJ* 2015; 350 doi: <https://doi.org/10.1136/bmj.h949>.
3. Hartvig Honoré P. Drug interactions. *European Journal of Hospital Pharmacy.* 2014;**21**:73.
4. Coleman JJ, Pontefract SK. Adverse drug reactions. *Clin Med (Lond).* 2016 Oct;16(5):481-485. doi: 10.7861/clinmedicine.16-5-481.
5. Khalil, H., Huang, C. Adverse drug reactions in primary care: a scoping review. *BMC Health Serv Res* 20, 5 (2020).
6. Hutton, B., Kanji, S., McDonald, E. et al. Incidence, causes, and consequences of preventable adverse drug events: protocol for an overview of reviews. *Syst Rev* 5, 209 (2016).

SPIDER POISONING

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The number of spider species has been estimated at around 40,000. Even while just a small percentage of spider bites are dangerous, delaying treatment can result in death. Since spider bites pose a risk to humans, they should be treated carefully, particularly in locations where they are prevalent

Loxoscelism, latrodectism, and funnel web spider syndrome are three significant disorders brought on by spider bites. Although there are many therapies in use, there could have been much more research done to reduce mortality. Arthropods are a class of invertebrate creatures that includes spiders. The most species are found in arthropods. Spiders belong to the subphylum Chelicerata and class of arachnids, together with ticks, mites, and scorpions. More than 80,000 species that belong to the spider class have been discovered to date, demonstrating how varied its members are. A wide group of arachnids in the araneae order include spiders.

In Australia, there is just one violent spider known as the funnel web that bites people without warning. Latin America is where you may find the bulk of poisonous spider. These big spiders are exceedingly aggressive, and their venom has a very lethal pharmacology.

There bite causes excruciating pain, priapism, diaphoresis, neurotoxic consequences, and other symptoms.

Different peptides and chemicals that impact sodium, calcium, and potassium channels in neurons as well as glutamate and acetylcholine receptors are present in spider venom. In addition to the agony and swelling at the bite site, spider bite victims also experience necrosis, pyrexia, pulmonary edema, respiratory distress, hypertension, renal failure, and death.

Treatment options include dapsone, antihistamines, colchicine, corticosteroids, and hyperbaric oxygen. Bite marks and symptoms can be treated with dapsone. The size of the necrotic region is reduced with antivenom. Less symptoms occur when the antivenom is delivered more quickly.

Muscle relaxants, opioids, analgesics, intravenous calcium, and antivenom are used to treat individuals.

Muscle spasms are relieved by benzodiazepines and narcotics. Children, pregnant women, the elderly, as well as patients with severe local symptoms, severe pains requiring repeated administration of analgesics, and systemic symptoms are all advised to have antivenom treatment. Supportive treatment including pain and symptom control.

Elastic wrap to immobilize a leg, stop lymph flow, and get you to the hospital quickly.

The only certain treatment is antivenom, which should be given up to 15 minutes after removing the bandage. Hemodynamic support, ventilatory support, and the delivery of tetanus vaccination are further therapeutic approaches. All of the layers of the eye may become inflamed if the hairs of a spider go into the eye.

In the event of uveitis, eye cleaning and topical corticosteroids are advised.

References:

1. Hickman C, Roberts L, Keen S, Larson A, I'Anson H, Eisenh-our D. Integrated principles of zoology. 14 ed. China: McGraw-Hill; 2008. pp. 402–12.
2. Diaz JH, Leblanc KE. Common spider bites. Am Fam Physician. 2007;75(6):869–73.
3. Braitberg G, Segal L. Spider bites: assessment and manage-ment. Aust Fam Physician. 2009;38(11):862–7.
4. Rajendra W, Armugam A, Jeyaseelan K. Toxins in anti-noci-ception and anti-inflammation. Toxicon. 2004;44(1):1–17.

NON-ALCOHOLIC FATTY LIVER DISEASE



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Non-alcoholic fatty liver disease (NAFLD) includes simple steatosis as well as more advanced forms of steatosis that are accompanied by cirrhosis, fibrosis, and, in rare cases, hepatocellular cancer. Because of obesity and insulin resistance, which cause triglyceride and free fatty acid accumulation in the liver. There are many risk factors that have been advocated for the development of NAFLD, and the most of them include some type of metabolic disorder or insulin resistance at their pathophysiologic core. Patients with NAFLD are at higher risk for both liver-related and cardiovascular mortality, and NAFLD is quickly overtaking other conditions as the main reason for liver transplantation. The gold standard for conclusive diagnosis is still liver biopsy, however noninvasive sophisticated imaging.

The phrase "non-alcoholic fatty liver disease" (NAFLD) is a catch-all for conditions ranging from basic adipose tissue deposition in the liver to more advanced steatosis with accompanying cirrhosis, fibrosis, and in some cases, hepatocellular carcinoma (HCC). For terminology's sake, NAFLD is made up of non-alcoholic steatohepatitis (NASH) and non-alcoholic fatty liver (NAFL).

Steatosis of the liver, involving more than 5% of the parenchyma, and the absence of hepatocyte damage are the hallmarks of NAFL. NASH, on the other hand, is described histologically as a necro inflammatory process in which the liver cells are harmed against a backdrop of steatosis. Although the natural history of NAFLD is still not fully understood, it is evident from the published data that there is a risk of developing cirrhosis and HCC.

REFERENCE:

1. Sayiner M, Koenig A, Henry L, Younossi ZM. Epidemiology of Nonalcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis in the United States and the Rest of the World. Clin Liver Dis. 2016;20:205–214. [PubMed] [Google Scholar]
2. Kanwar P, Kowdley KV. The Metabolic Syndrome and Its Influence on Nonalcoholic Steatohepatitis. Clin Liver Dis. 2016;20:225–243. [PubMed] [Google Scholar]
3. Calzadilla Bertot L, Adams LA. The Natural Course of Non-Alcoholic Fatty Liver Disease. Int J Mol Sci. 2016;17:pii: E774. [PMC free article] [PubMed] [Google Scholar].

DEPARTMENTAL ACTIVITIES

One day seminar on "Clinical Pharmacists' Perspective and Clinical Practice in the USA."

The Erode College of Pharmacy, in collaboration with the Department of Pharmacy Practice and the Department of Pharmaceutics, along with the Ph.D. Research Centre jointly hosted a seminar on "Clinical Pharmacists' Perspective and Clinical Practice in the USA." The event took place on October 1, 2022. The distinguished resource person for the seminar was Dr. N.N. Rajendran, M.Pharm., Ph.D., hailing from Dublin, California, USA. Dr. Rajendran, a retired Joint Director of Medical Education from Chennai, delivered valuable insights during the seminar.



Orientation Programme for VI Year Pharm.D (Interns):

The Erode College of Pharmacy's Department of Pharmacy Practice has scheduled an Orientation Programme for VI Year Pharm.D (Interns) Students on November 30, 2022 (Wednesday). Dr. V. Rajesh, Associate Professor at Manipal University, Karnataka, will be conducting the session.



One-day seminar on "Innovative Approaches to Extractables and Leachable Analysis and Career Opportunities in Clinical Research"

The Inauguration of the Institution's Innovation Council took place at Erode College of Pharmacy, Erode. In collaboration with the Department of Pharmaceutics, the Ph.D. Research Centre and the Department of Pharmacy Practice, a seminar on "Innovative Approaches to Extractables and Leachable Analysis and Career Opportunities in Clinical Research" was held on October 15, 2022 (Saturday). The seminar featured Dr. D. Prabakaran, M.Pharm., Ph.D., who is an alumnus of the 1994 - 1998 batch. Dr. Prabakaran currently serves as the Vice President of Operations at In Vitro Research Solutions Pvt. Ltd. in Bengaluru, Karnataka.

