PHARMA FIRST

www. pharmafirstonline. com

Vol-8 Issue-01 February 2026

NATIONAL PATIENT RECOGNITION WEEK

February 1–7

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Reflections

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Editorial

രോഗികൾക്കായി ഒരു വാർഷിക ആഘോഷം

ആരോഗ്യ പരിപാലനരംഗത്തു പ്രവർത്തിക്കുന്ന ഡോക്ടർമാർ, നഴ്സുമാർ, ഫാർമസിസ്റ്റുകൾ തുടങ്ങി രോഗീപരിചരണത്തിൽ ഏർപ്പെടുന്നവർക്കാണ് സാധാരണ ദേശീയതലത്തിൽ ദിനാചരണങ്ങൾ സംഘടിപ്പിക്കുന്നത്. ഇവരുടെയെല്ലാം ജീവനോപാധിയായ രോഗികൾക്കായി വർഷം തോറും നടത്തുന്ന, ആരും ശ്രദ്ധിക്കാതെ പോകുന്ന, ഒരാഘോഷമുണ്ട് ഫെബ്രുവരി ഒന്ന് മുതൽ 7 വരെ ആഘോഷിക്കുന്ന National Patient Recognition Week.

ആരോഗ്യമേഖലയിൽ ഏറ്റവും ആദരവും സഹായവും പരിഗണനയും സഹാനുഭൂതിയും വേണ്ട രോഗികളുടെ പരിചരണവും സന്തോഷവും സംതൃപ്തിയും ഉറപ്പു വരുത്താൻ ചെയ്യേണ്ട കാര്യങ്ങൾ ഈ വേളയിൽ വിശകലനം ചെയ്യുന്നു. 1995 ൽ Dr. John O'Malley തുടങ്ങിവച്ച ഈ വാരാഘോഷം രോഗികളുടെ മൗലികാവകാശങ്ങൾ സംരക്ഷിക്കാനായി നിലകൊള്ളുന്നു.

ഇന്ന് ആരോഗ്യമേഖയിലെ വെറും ഇരകളായി മാത്രം കാണുന്ന രോഗികളിൽ അനുഭവത്തിന്റെയും ഉൾക്കരുത്തിന്റെയും ബലത്തിൽ ആത്മവിശ്വാസവും മനഃശക്തിയും വർദ്ധിപ്പിക്കാനും ഇതു ലക്ഷ്യമിടുന്നു. ആരോഗ്യപ്രവർത്തകരുടെ സേവനത്തിന്റെ ലഭ്യതയും ഗുണമേന്മയും ഫലസിദ്ധിയും സൂക്ഷ്മനിരീക്ഷണം നടത്തി വിലയിരുത്താനും ഈ അവസരത്തിൽ രോഗികൾക്ക് കഴിയുന്നു. അതിന്റെ അടിസ്ഥാനത്തിൽ സർക്കാർ ഉൾപ്പെടെ മറ്റു ഉന്നത അധികാരികൾക്ക് പ്രവർത്തനങ്ങളെ തിരുത്താനും അംഗീകരിക്കാനും അവസരം ലഭിക്കുന്നതും, യഥാർത്ഥ ഉപഭോക്താക്കളിൽ നിന്നുള്ള വിലയിരുത്തലുകൾ സർക്കാർ നയങ്ങളിൽ മാറ്റം വരുത്താൻ സഹായിക്കുന്നതുമാണ്. ആശുപത്രികളുടെയും അവിടുത്തെ സംവിധാനങ്ങളുടെയും കൃത്യമായ ഉപയോഗം രോഗീപരിപാലനത്തിന് ഉപകാരപ്പെടുന്നുണ്ടോ എന്ന് ഉറപ്പാക്കുന്നതിന്, ആരോഗ്യ പ്രവർത്തകരെ നിലനിർത്താൻ ഉപയോഗിക്കുന്ന പണവും സൗകര്യങ്ങളും എത്രത്തോളം രോഗികൾക്ക് പ്രയോജനപ്പെടുന്നു എന്നതു പരിശോധിക്കുന്ന ജനകീയ ഓഡിറ്റ് നടത്തേണ്ടതാണ്.

പലപ്പോഴും മെച്ചപ്പെട്ട രോഗീസൗകര്യങ്ങളേക്കാൾ മറ്റു അലങ്കാര വേലകളാണ് മാറ്റങ്ങളായി ആശുപത്രികളിൽ കാണുന്നത്.സർക്കാർ ആശുപത്രികളിൽ വലിയ കമാനങ്ങൾ വയ്ക്കുന്നതിന് വൻ തുക ചിലവാക്കുമ്പോൾ മരുന്നുവാങ്ങാനും ലബോറട്ടറി സൗകര്യങ്ങൾ മെച്ചപ്പെടുത്താനും തുക കുറയുന്നു. കുറഞ്ഞ ചിലവിൽ എളുപ്പത്തിൽ ചികിത്സ ലഭ്യമാക്കി ചിരിക്കുന്ന മുഖത്തോടെ ആശുപത്രികളിൽ നിന്നിറങ്ങാനാണ് എല്ലാവരും ആഗ്രഹിക്കുന്നത്. മരുന്നുവാങ്ങാനും ഡോക്ടറെക്കാണാനും ആളുകൾക്ക് തിക്കിത്തിരക്കാതെ സൗകര്യപൂർവ്വം കാര്യങ്ങൾ സാധിക്കാൻ കഴിയണം. രോഗശമനവും സമാധാനവും സന്തോഷവും കൂടിച്ചേർന്ന ആരോഗ്യസംരക്ഷണവും ആരോഗ്യപ്രവർത്തകരിൽ നിന്നും ഗുണമേന്മയുള്ള സേവനവുമാണ് ലഭിക്കേണ്ടത്.

നല്ല അനുഭവത്തോടെ തൃപ്തിയോടെ ആശുപത്രി വിടാൻ ഓരോ രോഗിക്കും സാധിക്കുന്ന അന്നു മാത്രമേ ആശുപത്രികളുടെ യഥാർത്ഥ ഗുണം ജനങ്ങൾക്കുണ്ടാവൂ.രോഗികളുടെ കൂട്ടിരുപ്പുകാരും ബന്ധുക്കളും ആരോഗ്യപ്രവർത്തകരെ ആക്രമിക്കുന്ന സംഭവങ്ങൾ ഇപ്പോൾ സർവ്വസാധാരണമായിരിക്കുന്നു. വേദനയോടെ നിസ്സഹായതയോടെ തങ്ങളുടെ ആശുപത്രിയിലെത്തുന്ന മനുഷ്യരെ ആശുപത്രിയിലെ വാച്ച്മാൻ മുതൽ സ്പെഷ്യലിസ്റ്റ് ഡോക്ടർമാർ വരെ ഒരേ മനസ്സോടെ, അനുകമ്പയോടെ കണ്ട് ആശ്വസിപ്പിക്കുന്ന സമീപനം സ്വീകരിച്ചാൽ മാത്രമേ അവിടുത്തെ സേവനം തൃപ്തികരമാകൂ. ആശുപത്രികളിൽ രോഗീപരിചരണത്തിനുള്ളതുപോലെയുള്ള ഒരു പ്രോട്ടോക്കോൾ രോഗികളോടുള്ള സമീപനത്തിലും ഉണ്ടാകണം.തങ്ങളെ സംരക്ഷിക്കുന്ന അനുകമ്പയോടെയും സ്നേഹത്തോടെയും പെരുമാറുന്ന ആരോഗ്യപ്രവർത്തകരോട് ഒരു രോഗിയും മോശമായി പെരുമാറില്ല. അത്തരമൊരു സേവന സംസ്കാരം വളർത്താനാണ് ഇതുപോലുള്ള ആഘോഷങ്ങൾ സംഘടിപ്പിക്കുന്നത്.അത് അർത്ഥപൂർണ്ണമാകട്ടെ.

സ്നേഹപൂർവ്വം

ഡോ. പ്രദീപ് എം.ആർ

എഡിറ്റർ, ഫാർമാഫസ്റ്റ്

Greetings from the Team

Dear Readers,

Warm greetings and welcome to the February 2026 edition of PharmaFirst.

February is a month of momentum, reflection, and action-where plans from January begin to take shape and the year truly starts moving forward. This month is especially meaningful as PharmaFirst proudly begins its 8th successful year, a journey made possible by your trust, engagement, and support.

The pharmaceutical sector continues to evolve rapidly, with growing focus on digital health, accelerated drug development, and global collaborations aimed at improving lives. As we step into this new chapter, we remain committed to sharing insights, stories, and perspectives that inspire innovation, excellence, and progress.

Thank you for being part of our journey. Here's to continued growth, compassion, and success in 2026.

Enjoy reading-and stay inspired.

Warm regards,

TEAM PHARMAFIRST

Key Health Awareness Events

Around the World

February is globally recognized as a health awareness–intensive month, focusing on prevention, early diagnosis, equity in healthcare, and social determinants of health. The observances during this month collectively address non-communicable diseases, maternal and child health, mental and neurological disorders, women's health, and social justice, making February a critical period for public health advocacy.

Month-long observances

- ***American Heart Month:*** Focuses on heart health.
- ***National Cancer Prevention Month:*** Raises awareness for cancer prevention.
- ***National Children's Dental Health Month:*** Promotes dental health in children.
- ***Age-Related Macular Degeneration (AMD) / Low Vision Awareness Month:*** Brings attention to vision health.
- ***Teen Dating Violence Awareness Month:*** Aims to raise awareness about dating violence.
- ***Gallbladder Cancer and Bile Duct Cancer Awareness Month:*** Focuses on these specific cancers.
- ***International Prenatal Infection Prevention Month:*** Educates on preventing infections during pregnancy.

Specific days in February 2026

- ***February 1–7:*** National Patient Recognition Week.
- ***February 3:*** National Women Physicians Day.
- ***February 4 :*** World Cancer Day
- ***February 6:*** Wear Red Day and International Day of Zero Tolerance for Female Genital Mutilation.
- ***February 10:*** International Epilepsy Day: (second Monday of Feb.).
- ***February 11:*** International Day of Women and Girls in Science:
- ***February 13:*** International Condom Day.
- ***February 20:*** World Day of Social Justice
- ***February 28:*** Rare Disease Day

February 2026 stands out as a holistic health awareness month, covering prevention, patient rights, women's leadership, rare diseases, social justice, and vulnerable populations. These observances collectively reinforce that health is not merely medical care, but a combination of awareness, equity, prevention, and human dignity.

RECENTLY APPROVED FDA DRUGS

Compiled by : Devika Jayan

The following drugs have recently received FDA approval, including both newly approved medications and new indications for previously approved drugs.

Armlupeg (pegfilgrastim-unne) Injection

FDA approved Armlupeg, a PEGylated growth colony-stimulating factor biosimilar to Neulasta (pegfilgrastim), on December 1, 2025. It is used to reduce the incidence of febrile neutropenia in patients receiving chemotherapy and to increase survival in patients acutely exposed to myelosuppressive doses of radiation.

Voyxact (sibeprenlimab-szsi) Injection

FDA granted accelerated approval to Voyxact, an APRIL (A Proliferation Inducing Ligand) blocker, on November 26, 2025. It is indicated to reduce proteinuria in adults with primary immunoglobulin A nephropathy who are at risk for disease progression.

Itvisma (onasemnogene abeparvovec-brve) Suspension for Intrathecal Injection

FDA approved Itvisma, an adeno-associated virus (AAV) vector-based gene therapy, on November 25, 2025, for the treatment of spinal muscular atrophy in adults and children two years of age and older.

Osvyrti (denosumab-desu) Injection

FDA approved Osvyrti (denosumab-desu), a RANK ligand (RANKL) inhibitor biosimilar to Prolia (denosumab), on November 20, 2025, for the treatment of osteoporosis.

Jubereq (denosumab-desu) Injection

FDA approved Jubereq, a RANK ligand (RANKL) inhibitor biosimilar to Xgeva (denosumab), on November 20, 2025. It is indicated for the prevention of skeletal-related events in patients with multiple myeloma or bone metastases from solid tumors, for the treatment of giant cell tumor of bone, and for the treatment of hypercalcemia of malignancy.

Hyrnuo (sevabertinib) Tablets

FDA granted accelerated approval to Hyrnuo (sevabertinib), a reversible tyrosine kinase inhibitor (TKI), on November 20, 2025, for the treatment of HER2-mutant non-small cell lung cancer.

Redemplo (plozasiran) Injection

FDA approved Redemplo (plozasiran), an apolipoprotein C-III–directed small interfering RNA (siRNA), on November 18, 2025, as an adjunct to diet to reduce triglycerides in adults with familial chylomicronemia syndrome.

Komzifti (ziftomenib) Capsules

FDA approved Komzifti (ziftomenib), a menin inhibitor, on November 13, 2025, for the treatment of adult patients with relapsed or refractory NPM1 mutated acute myeloid leukemia.

Poherdy (pertuzumab-dpzb) Injection

FDA approved Poherdy, a HER2/neu receptor antagonist and interchangeable biosimilar to Perjeta, on November 17, 2025, for the treatment of HER2 positive breast cancer

NIMESULIDE AND PATIENT SAFETY

LESSONS FROM GLOBAL DRUG REGULATION

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- How new drugs are introduced worldwide
- How patient safety is evaluated
- Why regulatory standards differ across countries

Nimesulide serves as a classic example of non-uniform global drug regulation, where approval, restriction, or banning depends heavily on the strength and philosophy of regulatory systems rather than universal safety standards.

Introduction

Recently, the Indian Ministry of Health and Family Welfare issued a government resolution banning the use of Nimesulide above 100 mg dose, citing patient safety concerns at higher doses.

This decision has once again brought attention to the global journey of Nimesulide, making it an important case study to understand:

Brief History of Nimesulide

Nimesulide is a Non-Steroidal Anti-Inflammatory Drug (NSAID).

- Developed in Italy by Rottapharm (Later became part of Meda Pharmaceuticals)
- Developed in the early 1980s
- First marketed in 1985

Global Regulatory Status of Nimesulide

1. Countries Where Nimesulide Is Approved (With Restrictions)

Due to concerns primarily related to hepatic and nephrotoxic effects, its use is restricted in several countries.

- India
- Approved in 1995
- Banned for children below 12 years (2011)
- Ban on doses above 100 mg (2025)
- Argentina
- Approved in 1986, with controlled use

2. Countries Where Nimesulide Was Withdrawn or Banned After Approval

Withdrawals were mainly due to serious liver toxicity concerns.(Between 2002–2007)

- Finland – Withdrawn
- Spain – Withdrawn
- Ireland – Withdrawn
- Belgium-Withdrawn
- United Kingdom-Banned in 1985, almost immediately after approval

3. Countries Where Nimesulide Was Never Approved

In these countries, regulatory authorities rejected approval outright, citing safety risks.

- United States
- Not approved by FDA
- Reason: Severe liver toxicity risks
- Canada
- Not approved due to safety concerns
- Australia
- Not approved by TGA
- Reason: Liver safety concerns
- Japan
- Not approved by PMDA
- New Zealand
- Not approved due to safety concerns

Key Observations from Global Data

The regulatory journey of Nimesulide reveals three distinct global patterns:

1. Countries with Very Strict Regulatory Systems

- Mostly technologically advanced and highly regulated nations
- No drug is approved unless:
- Long-term safety data is available
- Risk–benefit ratio is clearly favourable
- Example: USA, Japan, Australia

2. Countries with Moderately Developed Regulatory Systems

- Regulatory processes exist but are:
- Inconsistently enforced
- Sometimes reactive rather than preventive
- Drugs may be:
- Approved first
- Restricted or banned later based on adverse reports

3. Countries with Weak Regulatory Oversight

- Follow the assumption:
- "If a drug is approved in the country of

origin, it must be safe for us too."

- Limited:
- Independent safety evaluation
- Pharmacovigilance capacity
- Patient safety becomes a secondary consideration

Conclusion: Lessons for Patient Safety-

The story of Nimesulide clearly demonstrates that: There are no uniform global standards for drug safety

Patient safety varies significantly based on-

- Regulatory strength
- Scientific capability
- Political and economic priorities

A drug can be:

- Never approved in some countries
- Approved and later banned in others
- Still in use with restrictions elsewhere

Key Policy Observations

1. No Uniform Global Drug Safety Standard Exists Regulatory decisions vary widely despite similar scientific evidence.
2. Regulatory Strength Determines Patient Safety Countries with strong pharmaco-vigilance systems reject unsafe drugs early, while others respond after harm is observed.
3. Delayed Corrective Action Increases Patient Risk Approve then ban approaches expose populations to avoidable adverse effects.
4. Developing Countries Bear Dispropo-rtionate Risk

Due to limited independent safety assessment and weaker post-marketing surveillance.

Policy Implications for India

- Reliance on foreign approvals or historical use is insufficient to ensure safety.
- Older drugs approved decades ago require periodic re-evaluation using current scientific standards.
- Paediatric, geriatric, and high-dose safety must receive special regulatory attention.
- Weak pharmacovigilance undermines early detection of adverse drug reactions.

Policy Recommendations

It is recommended that the Government may consider:

1. Mandatory periodic safety review of all legacy drugs using updated global evidence
2. Strengthening pharmacovigilance systems at national and state levels
3. Making dose-specific and age-specific safety data compulsory for continued approval
4. Establishing clear, transparent criteria for drug restriction or withdrawal
5. Enhancing regulatory autonomy and technical capacity of drug control authorities
6. Establish uniform national safety benchmarks aligned with global best practices
7. Mandate long-term safety studies before approval of new drugs
8. Periodically review older drugs using updated safety evidence
9. Testing of old drugs introduced in India

but not being used in developed countries

10. Promote transparency in regulatory decision-making

Key Lessons for Regulatory Governance

- Drug approval is a public health decision, not merely a technical or commercial one.
- Patient safety must take precedence over market availability.
- Independent, evidence-based regulatory capacity is essential.

Conclusion

The global regulatory experience of Nimesulide demonstrates that drug safety is not guaranteed by historical use or international availability.

A patient-centric, precautionary, and evidence-driven regulatory framework is essential to prevent avoidable harm and to maintain public trust in the healthcare system.

PHARMACY COUNTER SAFETY CARD

(A Laminated Card-To be Displayed at all Pharmacy Counter)

PAIN-RELIEF MEDICINES (NSAIDs)

USE SAFELY – PROTECT YOUR LIVER & KIDNEYS

SAFE USE |

✓ Take medicines only as prescribed by a doctor

✓ Follow the exact dose & duration

✓ Drink enough water

✓ Inform your doctor if you have liver, kidney, heart problems or alcohol use

BE CAREFUL IF YOU ARE |

▲ Above 60 years of age

▲ Weak, dehydrated, fasting

▲ Taking medicines for BP, diabetes, or chronic illness

▲ Using pain medicines repeatedly

Pain or fever > 2–3 days? See a doctor

× DO NOT |

× Do NOT increase dose on your own

× Do NOT mix pain medicines with alcohol

× Do NOT take two pain medicines together

× Do NOT give adult medicines to children

× Do NOT repeat old prescriptions

STOP & SEE A DOCTOR IMMEDIATELY

Yellow eyes or skin | Dark urine | Severe stomach pain |

Continuous vomiting | Extreme weakness or confusion |

(May indicate serious liver or kidney damage)

FOR CHILDREN |

× Adult pain medicines are NOT safe

✓ Always check age & dose

REMEMBER |

- Right dose = Safe relief |
- Wrong dose = Hidden danger |

Overuse = Serious harm |

More medicine does NOT mean faster recovery

ASK YOUR PHARMACIST IF UNSURE-

AFE USE |

Use QR code available with Pharmacist to report the untoward or adverse drugs reaction observed by you and by your family member (Copy of the government circular attached herewith below)

(Issued in Public Interest) Dr. Suresh Saravdekar

TEEN DATING VIOLENCE
: KEY INSIGHTS

Mrs.G. Krishnakumari

Teenage Dating Violence (TDV) involves physical, sexual, psychological, or emotional abuse within adolescent dating relationships. Unlike adult Intimate Partner Violence (IPV), TDV is less studied, despite its serious and lasting effects. As a critical stage for identity formation and emotional growth, adolescence is particularly vulnerable, and exposure to violence can lead to long-term physical, psychological, and behavioral problems.

Prevalence and Gender Patterns

A key debate in TDV concerns gender patterns in perpetration and victimization. Research shows boys and girls report similar overall rates of IPV in adolescent heterosexual relationships, with some studies indicating girls may even perpetrate certain acts more. However, girls are more likely to suffer severe violence-such as being punched, strangled, or threatened with a weapon-while boys more often experience less severe acts, like slapping, pinching, or kicking.

Girls are also more likely to sustain injuries, require psychological or medical treatment, and report sexual violence within dating relationships. These findings illustrate that while overall prevalence may appear equal, the severity and impact of TDV are disproportionately higher for females. Conversely, boys are more often associated with perpetrating severe acts, including threats, controlling behaviour, and coercive tactics.

Another important distinction is motivation. Many adolescent girls who report perpetrating violence describe doing so in self-defense, aligning with evidence that previous victimization is a stronger predictor of perpetration in females compared to males. For boys, perpetration is more strongly associated with a history of childhood physical abuse, family violence, and social learning of aggression. These differences highlight the need for nuanced gender-sensitive interventions.

Developmental Considerations

Adolescence shapes both the occurrence and impact of TDV. Teen relationships often involve intense emotions, limited coping skills, and evolving boundaries. Adolescents may misinterpret controlling behavior as affection, struggle to recognize unhealthy patterns, or lack the resources to leave violent relationships. Limited life experience can also lead them to normalize violence seen at home or among peers.

Another misconception is that aggression is stable over time, leading to the belief that a violent adolescent will inevitably become a violent adult. Research challenges this assumption, emphasizing that adolescence is a period of experimentation and change, influenced by environment, relationships, and coping patterns. Labeling a young person as a lifelong threat can harm their emotional

development, future relationships, and social identity. Yet failing to identify risk factors may place future partners in danger. Striking a balance between accountability and support remains a central challenge in policy and prevention.

Legal and Ethical Dimensions: Age of Consent

The legal context of teenage relationships adds complexity. Age of consent laws, meant to protect minors, can create grey areas when applied to consensual activity between adolescents, sometimes leading to prosecution of teens close in age. While intended to prevent exploitation, such laws must balance protection, autonomy, and justice, especially as sexual aggression intersects with legal definitions of consent.

Risk Factors and Causes

Research highlights the role of nurture in TDV. Adverse childhood experiences (ACEs)-including parental mental illness, substance abuse, criminality, domestic violence, abuse, or long-term separation-significantly increase the risk of perpetration and victimization. Studies show strong links between multiple ACEs and teen relationship violence, with sexual abuse and exposure to inter-parental violence being particularly influential with 13.8% reporting sexual violence and 11.6% witnessing parental violence.

Other studies reinforce these findings, identifying childhood bullying, assault, maltreatment, and family dysfunction as powerful predictors of adolescent aggression. These experiences can distort emotional regulation, empathy, communication skills, and perceptions of healthy intimacy.

Though less extensively studied, some evidence also points to biological factors, including the influence of hormones such as testosterone on aggression. However, biological influences appear significantly weaker compared to environmental factors, underscoring the role of learned behavior and social context.

Consequences of TDV

The consequences of TDV extend beyond the relationship itself. Victims face higher risks of anxiety, depression, post-traumatic stress, substance use, risk-taking behaviors, eating disorders, self-harm, academic decline, and re-victimization in adulthood, as well as physical injuries. Perpetrators may experience long-term relational difficulties, legal issues, substance misuse, and continued aggression. Because TDV occurs during adolescence-a critical period for forming beliefs about trust, boundaries, conflict resolution, and self-worth-it can have particularly lasting and harmful effects.

Prevention and Intervention

Effective prevention of TDV requires a multi-layered approach, including school-based programs that teach emotional regulation, communication, conflict resolution, and healthy relationship skills; parental involvement to model non-violent behavior and support adolescent autonomy; community efforts to challenge harmful gender norms; early identification of at-risk youth; clear legal frameworks that protect without criminalizing consensual activity; and counseling services tailored to adolescents' developmental needs.

Given that around 32% of adolescent boys and approximately half that rate among girls report engaging in some form of violence-sexual, physical, or emotional-the importance of preventive strategies cannot be overstated

Reflections

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Consortium on Innovation and Entrepreneurship in Healthcare :
An Initiative of the Indian Pharmaceutical Association (IPA), Kerala State Branch

The pharmaceutical sciences are undergoing rapid transformation driven by advances in science, technology, and evolving healthcare delivery models. Innovation and entrepreneurship now play a vital role in translating discoveries into affordable, accessible, and impactful healthcare solutions. As disease patterns shift and digital health, personalized medicine, and global health challenges expand, fostering an entrepreneurial mindset within pharmaceutical sciences is no longer optional-it is essential.

Recognizing this need, the Indian Pharmaceutical Association (IPA), Kerala State Branch launched the Consortium on Innovation and Entrepreneurship in Healthcare (CIEH) on 21 January 2026. The initiative promotes translational research through Academia–Industry partnerships, enabling research outcomes to be converted into products and services with societal and commercial value.

The initiative has received strong national participation, with nearly 45 experts from industry, academia, research, and regulatory sectors serving on the Advisory Board. Additionally, 15 pharmaceutical companies and 10 research-oriented pharmacy colleges have joined as Founder Partners, demonstrating a shared commitment to collaborative innovation.

The Consortium was inaugurated by Professor B. Suresh, Pro-Chancellor, JSS Academy of Higher Education & Research (JSSAHER), Mysuru. In his address, he underscored the vital role of innovation amid rapid technological change and the need for disruptive, globally relevant pharmaceutical solutions.

Eminent speakers collectively underscored the need to prioritize commercially viable innovations, particularly in the wellness, herbal, nutraceutical, and cosmetic sectors, while strengthening the R&D capabilities of small and medium pharmaceutical enterprises (SMEs). Significant opportunities were identified in areas such as analytical services, packaging solutions, herbal formulation development, and cosmetic product innovation.

The stakeholder deliberations highlighted the urgent need for academic institutions to evolve from being mere “talent factories” into active translation engines by 2026. Four key pillars were identified to enable this transition:

1. A clear focus on solvable, industry-relevant problems

2. Predictive and data-driven approaches to reduce industry failure rates
3. Frictionless intellectual property (IP) policies
4. Interdisciplinary team science involving pharmacy, medicine, engineering, and data sciences.

Strong emphasis was placed on student-driven innovation, addressing affordability, accessibility, and unmet medical needs through innovation labs, hackathons, startup exposure, and cross-disciplinary collaboration.

Discussions emphasized translating Ayurvedic and herbal knowledge into modern scientific frameworks through evidence-based research, validation, standardization, and regulatory alignment to realize their global healthcare potential.

Participants shared insights from the cosmetic and herbal industries, highlighting entrepreneurship and global market potential when traditional wisdom is combined with modern science. Support mechanisms such as shared infrastructure, mentorship, funding, and incubation were also discussed.

At the same time, regulatory challenges, delays in licensing, and gaps in technology transfer mechanisms were acknowledged, reinforcing the need for smoother pathways to enable effective translational research and consultancy.

The deliberations concluded with a collective call for sustained collaboration among all stakeholders to strengthen India's healthcare innovation ecosystem. The newly launched Consortium is envisioned as a national platform for innovation, entrepreneurship, and translational research, spearheaded by the IPA Kerala State Branch.

Way Forward

1. **Translating Research into Practice** Enable the conversion of academic and laboratory research into commercially viable products, technologies, and services addressing unmet healthcare needs.
2. **Encouraging an Entrepreneurial Mindset** Nurture creativity, risk-taking, problem-solving, and leadership skills among pharmacy students, researchers, and professionals.
3. **Strengthening Industry–Academia Collaboration** Foster meaningful partnerships between academic institutions, pharmaceutical industries, startups, and healthcare organizations for co-creation and knowledge exchange.
4. **Supporting Startups and New Ventures Facilitate** the creation and growth of pharmaceutical and healthcare startups through mentorship, incubation, funding support, and regulatory guidance.
5. **Improving Healthcare Outcomes** Promote innovations that enhance drug safety, efficacy, accessibility, affordability, and patient adherence.
6. **Building National and Regional Innovation Capacity** Contribute to economic growth, employment

PHARMA Quiz

Dr. Swathy Pradeep. Pharm D

1. Tobacco smoke causes what type of cellular damage ?
2. Which water-soluble vitamin helps prevent cancer ?
3. What do antioxidants neutralize ?
4. Which compound activates phase II detoxification enzymes ?
5. HPV vaccination prevents which major cancer ?
6. What type of growth do colon cancer screenings remove ?
7. Smoking causes 90% of which cancer ?
8. Exercise helps control which hormone-related factor in colon cancer ?
9. Which B vitamin lowers colon and breast cancer risk in alcohol-using women ?
10. Which bacteria causes most stomach cancers ?

Answers @ Page 23

BRUXISM (TEETH GRINDING) OVERVIEW, CAUSES, DIAGNOSIS & MANAGEMENT

Dr Dileepkumar S

Bruxism is the involuntary clenching, grinding, or gnashing of teeth, which can occur during the day or at night. Occasional grinding is common, especially during stress, but frequent bruxism can lead to dental damage, headaches, and TMJ(TemporoMandibular Joint) disorders. It can affect anyone, though it is most common in children, adolescents, and young adults, and is often underreported since it frequently occurs during sleep.

Symptoms

Symptoms may include morning headaches or facial pain, earaches, jaw muscle soreness, tinnitus, pain while chewing, and difficulty opening or closing the mouth.

Types

Bruxism can happen when a person is awake or asleep. The grinding action is the same, but awake and asleep bruxism are two separate conditions.

Awake bruxism: occurs during waking hours and usually does not require treatment. It is often triggered by anxiety, stress, anger, or intense concentration, leading to jaw clenching.

Sleep bruxism: Grinding or clenching the teeth during sleeping can cause more harm than bruxing

during waking hours because one cannot realize it is happening. People with sleep bruxism often need treatment to help manage the effects of grinding.

Causes & Risk Factors:

A risk factor is something that increases the chances of developing a certain condition. There are many risk factors for bruxism, including:

Stress and anxiety: When there are depression or anxiety disorders like major depressive disorder (MDD) or generalized anxiety disorder (GAD), feeling overwhelmed and stressed can result in bruxism.

Lifestyle habits: Those who have the habits of smoking, drinking alcohol, and consuming a lot of caffeine (more than six cups of coffee a day) are twice as likely to grind their teeth as people who do not.

Usage of certain medications: This includes a class of anti-anxiety drugs called selective serotonin reuptake inhibitors (SSRIs). Drugs like Fluoxetine, Sertraline, Paroxetine, Citalopram, and Escitalopram, which work by increasing serotonin in the brain, may lead to bruxism.

Sleep apnoea: Studies show that there is a correlation between sleep apnoea and teeth grinding, meaning that many people have both conditions.

Complications:

Complications of bruxism can include sleep disturbances, tooth wear or fractures, loose teeth, TMJ disorders, and facial or jaw pain.

Diagnosis:

Diagnosis of bruxism may involve a dental examination, review of symptoms, and polysomnography if sleep bruxism is suspected.

Management and Treatment

When there is mild bruxism or only occasional bruxing, there is no need for a formal treatment. But in more severe cases, healthcare providers recommend some treatments:

Mouth guards. A dentist can make a custom mouth guard to protect the teeth. This appliance can also be placed in the jaw in a more favourable position to reduce TMJ muscle strain. It is better to wear a mouth guard when there is a high likelihood of grinding the teeth.

Stress reduction techniques. Managing stress may reduce bruxism symptoms. This includes therapies like meditation, exercise, and cognitive behavioural therapy.

Lifestyle changes. If teeth grinding is a result of caffeine or alcohol consumption, reducing the daily intake can help. Quitting smoking can help to stop bruxing and get better quality sleep.

Medications. Taking a muscle relaxant before bedtime can reduce or prevent teeth grinding. Most healthcare providers only recommend this approach temporarily.

Botulinum toxin injections. In severe cases, doctors may recommend Botox® for teeth grinding. These injections temporarily relax the jaw muscles and reduce pain. Repeated treatments are required to maintain the best results - usually every three to four months.

Prognosis:

Children often outgrow bruxism by adolescence. Adults can manage symptoms effectively by regularly wearing mouth guards and making lifestyle adjustments.

Prevention:

While teeth grinding - especially during sleep- cannot always be prevented, risk can be reduced by practicing mindfulness to manage stress, attending regular dental checkups to address damage early, and avoiding smoking, recreational drugs, and heavy alcohol consumption.

SOCIAL JUSTICE IN INDIA

CHALLENGES & PROTECTIVE MEASURES

Sri.Kamarudeen. A

Social justice in India aims to build a society where every individual enjoys equality of status and opportunity. It addresses inequalities rooted in caste, gender, religion, disability, and poverty through constitutional guarantees, welfare programs, and inclusive growth initiatives.

CONSTITUTIONAL FOUNDATIONS

- **Preamble**: Guarantees social, economic, and political justice, along with equality and dignity.

- **Fundamental Rights:** Articles 14–18 ensure equality; Articles 23–24 prohibit exploitation; Article 21 protects life with dignity.
- **Directive Principles of State Policy (DPSP):** Guide the State to reduce inequalities and promote education, health, and welfare.
- **Ambedkar's Vision:** Liberty, Equality, and Fraternity (LEF) serve as pillars for social transformation and justice.

CORE AREAS OF SOCIAL JUSTICE

Core areas of social justice include promoting equality and equity by eliminating caste and gender discrimination, while ensuring access to essential resources such as education, healthcare, livelihood, housing, and sanitation. It involves empowering marginalized groups including SC/ST/OBC, women, minorities, persons with disabilities, and transgender persons, and advancing economic justice through poverty reduction and employment schemes. Additionally, it focuses on protecting vulnerable communities from environmental harm and increasing their participation in governance and public institutions.

MAJOR CHALLENGES

Major challenges to social justice include persistent caste-based discrimination, gender inequality and wage gaps, regional and economic disparities, corruption and inefficiencies in welfare delivery, lack of awareness of rights and entitlements, environmental displacement from large projects, and weak implementation of constitutional safeguards.

MEASURES TO STRENGTHEN AND PROTECT SOCIAL JUSTICE

A. LEGAL & INSTITUTIONAL MEASURES

Social justice can be strengthened through the effective enforcement of the SC/ST (Prevention of Atrocities) Act, the establishment of fast-track courts for caste- and gender-based violence, the expansion of free legal aid and legal literacy programs, and improved transparency through digital governance and social audits.

B. SOCIO – ECONOMIC MEASURES

Social justice can be promoted by expanding access to quality education and scholarships and by strengthening health and nutrition programs such as POSHAN and Ayushman Bharat. Employment opportunities can be enhanced through MGNREGA, MSMEs, and entrepreneurship initiatives, while ensuring inclusive policies for persons with disabilities.

C. COMMUNITY – BASED MEASURES

Social justice can be strengthened through awareness campaigns against discrimination, support for civil society and grassroots activism, and by empowering Panchayati Raj institutions with adequate representation of marginalized groups.

D. ENVIRONMENTAL & LAND – RELATED MEASURES

Social justice can be promoted by ensuring fair rehabilitation and compensation in land acquisition, effectively implementing the Forest Rights Act to protect tribal communities, and promoting sustainable development while preventing pollution in vulnerable areas.

Achieving social justice in India requires committed action from government, communities, and citizens. Strengthening constitutional mechanisms, inclusive policies, and transparent governance can build a society where dignity and opportunity are accessible to all

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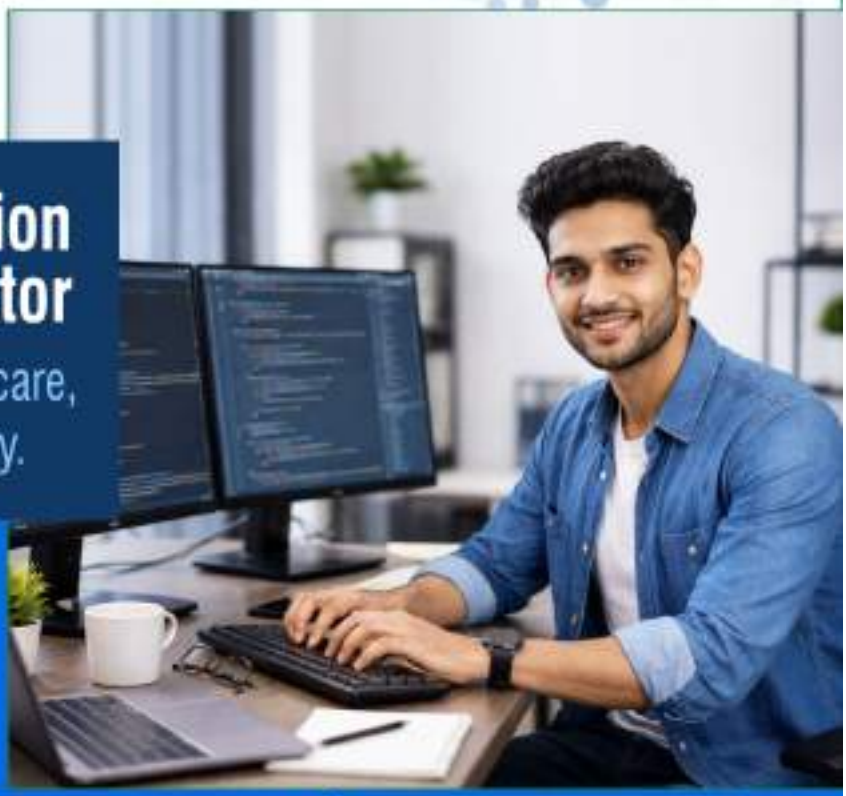

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HEALTH RISKS ASSOCIATED WITH BETEL LEAF CHEWING AND SPITTING

Dr. Mohammed Mustafa

Chewing betel leaf (often combined with areca nut and sometimes tobacco) is a common cultural practice in several parts of Asia. Although widely used for its stimulating effects, the practice carries significant health, social, and environmental risks. Chewing betel preparations and public spitting contribute to harmful outcomes-from cancer and cardiovascular disease to community-level hygiene hazards.

Health Hazards of Betel Leaf and Betel Nut Chewing

1. Oral and Esophageal Cancers

Chewing betel nut is strongly associated with oral cancers, including cancers of the tongue, cheek, gums, and throat, with the addition of tobacco significantly increasing the risk. Prolonged chewing causes chronic irritation of the oral mucosa and can lead to oral submucous fibrosis, a precancerous condition.

2. Esophageal Cancers

Long-term use damages the upper digestive tract, raising the risk of esophageal squamous cell carcinoma.

3. Cardiovascular Diseases

Betel nut chewing increases the risk of coronary artery disease, high blood pressure, and stroke due to stimulant compounds affecting heart rate and vascular function.

4. Reproductive Effects

When tobacco is included, pregnant women face higher risks of stillbirth, premature labor, and low birth weight infants due to toxic chemical exposure.

5. Addiction

Betel nut contains psychoactive alkaloids that cause dependence, cravings, and withdrawal symptoms, making the habit difficult to quit.

6. Dental and Oral Health Problems

Betel chewing causes permanent red or brown stains on teeth, enamel erosion, gum irritation, and periodontal disease.

Public Health and Hygiene Hazards of Spitting

1. Spread of Diseases

Public spitting spreads infectious agents through saliva droplets, aiding the transmission of tuberculosis, influenza, and respiratory infections.

2. Environmental and Aesthetic Issues

Spitting is unhygienic and visually unpleasant. Betel juice leaves bright red stains on pavements, walls, and public buildings, which degrade urban environments.

3. Increased Municipal Cleaning Burden

Removal of stubborn betel stains requires additional manpower and cleaning resources, increasing municipal expenses.

4. Social and Cultural Impact

Public spitting reinforces negative civic habits, affects tourism, and contributes to a perception of poor hygiene. Some cities impose fines to discourage it.

Both betel leaf chewing and public spitting pose major public health risks. These practices lead to preventable medical conditions, including cancer, cardiovascular disease, addiction, and dental problems. Spitting spreads infections and spoils public spaces. Awareness, regulation, and public health campaigns are essential to reducing these hazards

Ask The Master

നിങ്ങളുടെ ഔഷധ സംബന്ധമായ സംശയങ്ങൾക്ക് എഴുതുക.

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Q.1 വിദേശത്തേയ്ക്ക് സഹോദരങ്ങളുടെ ഉപയോഗത്തിനായി മൂന്നു മാസത്തെ മരുന്ന് അയച്ചു കൊടുക്കുന്നതിനു എന്തെല്ലാം കാര്യങ്ങൾ ചെയ്യണം? ഡ്രഗ്സ് കോൺട്രോളറുടെ NOC വേണമെന്ന് കൊറിയർ കാർ പറയുന്നു. അതിന്റെ നിയമവശം എന്താണ്?

ഡോ : രാജേഷ് എസ് ,കാഞ്ഞങ്ങാട്

Ans. വിദേശത്തേയ്ക്ക് സ്വന്ത ഉപയോഗത്തിനോ ബന്ധുക്കൾക്കു വേണ്ടിയോ മരുന്നുകൾ കൊണ്ടു പോകുന്നതിനു താഴെപ്പറയുന്ന രേഖകൾ കരുതണം. ആദ്യമായി വേണ്ടത് ഒരു ഡോക്ടറുടെ ലെറ്റർ പാഡിൽ എഴുതിയ അദ്ദേഹത്തിന്റെ ഒപ്പോടുകൂടിയ പ്രിസ്ക്രിപ്ഷൻ ആണ്. അതിൽ രോഗിയുടെ മുഴുവൻ മേൽവിലാസവും വയസ്സ്, രോഗ വിവരം, കൃത്യമായ മരുന്നുകളും ഡോസും കഴിക്കേണ്ട വിധവും കാലവും രേഖപ്പെടുത്തിയിരിക്കണം. ആ കുറിപ്പടിയുടെ അടിസ്ഥാനത്തിൽ വാങ്ങിയ മരുന്നുകളുടെ ബില്ല് (അതിലെ അഡ്രസ് കൃത്യമായിരിക്കണം, ഡോക്ടർ നിർദ്ദേശിച്ച മരുന്നുകളും അതിന്റെ ബാച്ച് നമ്പർ,നിർമ്മാണകാലാവധി തീയതികൾ,വിലയും ജി എസ് ടി യും ,ഫാർമസിസ്റ്റിന്റെ ഒപ്പും ഉണ്ടാകണം), അയക്കുന്ന ആളിന്റെയും വിദേശത്തു കൈപ്പറ്റുന്ന ആളിന്റെയും തിരിച്ചറിയൽ രേഖകൾ, കൈപ്പറ്റുന്ന ആളിന്റെ അഡ്രസ്സ് തെളിയിക്കുന്ന രേഖകൾ, കസ്റ്റംസ് നൽകുന്ന ഒരു സത്യപ്രസ്താവന, അതോടൊപ്പം ഓരോ രാജ്യവും നിഷ്കർഷിക്കുന്ന പ്രത്യേക രേഖകളും ഉണ്ടാകണം.

ഇതിനു പുറമെ,അയക്കുന്നയാൾ താമസിക്കുന്ന സ്ഥലത്തു അധികാരപരിധിയുള്ള അസിസ്റ്റന്റ് ഡ്രഗ്സ് കൺട്രോളർ/ ഡ്രഗ്സ് ഇൻസ്പെക്ടറുടെ കൈയിൽ നിന്നും ഒരു NOCയും വേണം. അതിനായി അവിടെ രേഖകൾ പ്രകാരം പണമടച്ചു അപേക്ഷ നൽകണം. വിദേശത്തു വിൽക്കാനായി മൊത്തമായി മരുന്നയക്കുമ്പോൾ വേറെ രേഖകളാണ് നൽകേണ്ടത്.

Q. 2 ആയുർവ്വേദ പച്ചമരുന്നുകൾ ചേർന്ന ഒരു എണ്ണ പാരമ്പര്യമായി ഞങ്ങൾ വീട്ടിൽ ഉണ്ടാക്കി ആവശ്യക്കാർക്ക് നൽകുന്നുണ്ട്. അതിൽ വിലയൊന്നും രേഖപ്പെടുത്താറില്ല. മുടിവളരാനും താരനും നരയും മാറാനും ഇത് വളരെ ഫലപ്രദമാണ്. ആവശ്യമനുസരിച്ചു ഉണ്ടാക്കി ക്കൊടുക്കാറാണ് പതിവ്. ഇത് സോഷ്യൽ മീഡിയ വഴി പരസ്യം നൽകി വിൽക്കാൻ എന്തു ലൈസൻസ് ആണ് വേണ്ടത് ? വിശദമാക്കുമോ?

കുര്യൻ ജോസ്, കറുകച്ചാൽ, കോട്ടയം.

Ans. ഇപ്പോൾ ചെയ്യുന്ന കാര്യങ്ങൾ നിയമവിരുദ്ധമാണ്. പരസ്യം ചെയ്തു വിൽക്കുന്നതിന് നിർമ്മാണ ലൈസൻസ്, ജിഎസ്ടി രജിസ്ട്രേഷൻ എന്നിവ വേണം. ആവശ്യമായ ലൈസൻസ് എടുക്കുന്നതിനു സംസ്ഥാന ഡ്രഗ്സ് കണ്ട്രോൾ വകുപ്പുമായി ബന്ധപ്പെടുക. രണ്ടു തരം ലൈസൻസാണ് സാധാരണ നൽകുന്നത് കോസ്മെറ്റിക്സ് ആയോ ആയുർവ്വേദ മരുന്നായോ. അതിനായി ആയുർവ്വേദ ഡ്രഗ്സ് ഇൻസ്പെക്ടർ ഓഫീസിലോ അസിസ്റ്റന്റ് ഡ്രഗ്സ് കൺട്രോളർ ഓഫീസിലോ ബന്ധപ്പെട്ടു വിവരങ്ങൾ ശേഖരിക്കുക. വീട്ടിൽ മരുന്ന് നിർമ്മാണം അനുവദനീയമല്ല . സ്വന്തമായോ വാടകയ്ക്കോ ഒരു മുറി, ലൈസെൻസിനു വേണ്ട അളവനുസരിച്ചു, എടുക്കുകയും ഉപകരണങ്ങൾ വാങ്ങി സജ്ജമാക്കുകയും വേണം. ഗുണനിലവാര പരിശോധനയ്ക്കും സൗകര്യങ്ങൾ ഒരുക്കണം. ബ്രാൻഡ് രജിസ്ട്രേഷനും ലൈസൻസും എടുത്തശേഷം സോഷ്യൽ മീഡിയ വഴി പരസ്യം ചെയ്തു വിൽക്കാം.

Pharma Quiz Answers

1. Mutagenesis
2. Vitamin C
3. Free radicals
4. Lycopene
5. Cervical
6. Polyps
7. Lung
8. Insulin
9. Folate
10. H. pylori

മരുന്നുകളുടെ വിൽപ്പനക്കാർ ശ്രദ്ധിക്കേണ്ട പ്രധാന കാര്യങ്ങൾ

ഡോ. സ്വാതി പ്രദീപ്
PHARMACIST,
CINCOTTA CHEMIST, NSW AUSTRALIA

ജീവൻ രക്ഷാ മരുന്നുകളുടെ അടിയന്തര ലഭ്യത.

ചെറുകിട മരുന്നുവ്യാപാരികൾക്കു പലപ്പോഴും വിലകൂടിയ കാൻസർ മരുന്നുകൾ, സ്ഥിരം ഉപയോഗിക്കുന്ന ജീവൻരക്ഷാ മരുന്നുകൾ എന്നിവ കടയിൽ സൂക്ഷിച്ചു വിൽപ്പന നടത്താൻ സാധിക്കാതെ വരുന്നു. ഒന്നാമതായി അവയുടെ സ്റ്റോറേജ് തന്നെയാണ് പ്രശ്നം. കൃത്യമായ താപനിലയിൽ, മിക്കപ്പോഴും 28 ഡിഗ്രി താപനിലയിൽ മറ്റു മരുന്നുകളുമായി വേർതിരിച്ചു, ഡിജിറ്റൽ തെർമോമീറ്റർ വച്ച ഫ്രിഡ്ജിൽ സൂക്ഷിക്കേണ്ടവയാണവ. ഭൂരിഭാഗം കടക്കാരും ഇൻസുലിൻ ഒഴികെയുള്ള മരുന്നുകൾ വലിയതോതിൽ കടയിൽ സൂക്ഷിക്കാറില്ല. അത്തരം മരുന്നുകൾ സ്ഥിരമായുപയോഗിക്കുന്ന രോഗികളെ അറിയാവുന്ന സ്ഥിതിയ്ക്ക് വലിയ ബുദ്ധിമുട്ടില്ലാതെ വിറ്റു പോകുന്നതുമാണ്. കോൾഡ് സ്റ്റോറേജ് ആവശ്യമുള്ള മറ്റു മരുന്നുകൾ വലിയ സ്റ്റോക്ക് ഉണ്ടാകാറുമില്ല. അതിനാൽ വാക്സിൻറെയും മറ്റ് ഇൻജക്ഷനുകളുടെയും ഗുണമേന്മയും ഫലസിദ്ധിയും നഷ്ടപ്പെടാതെ ഫ്രിഡ്ജിൽ സൂക്ഷിച്ചു, വിൽപ്പന നടത്താൻ സാധിക്കാറുമുണ്ട്. കാൻസർ പോലുള്ള മാരക രോഗങ്ങൾക്കുള്ള ഇൻജെക്ഷനുകളും മറ്റു വിലകൂടിയതും സ്ഥിരം രോഗികൾ വരാത്തതുമായ മരുന്നുകൾ റീറ്റെയ്ൽ കടകളിൽ വിലകൊടുത്തു വാങ്ങി സൂക്ഷിച്ചു വിൽപ്പന നടത്തുന്നത് വലിയ ഗുണം ചെയ്യില്ല. രോഗികളുടെ ആവശ്യാർത്ഥം അവ മൊത്തവ്യാപാരികളിൽ നിന്നും വാങ്ങി പ്രിസ്ക്രിപ്ഷൻ പ്രകാരം രോഗികൾക്ക് നേരിട്ട് നൽകുകയാണ് ലാഭകരവും അഭികാമ്യവും. അത് കേവലം ഒരു കച്ചവടത്തിനുപരി സേവനമായി മാറണം. അവിടെ വലിയ ലാഭം പ്രതീക്ഷിക്കാതെ വിൽപ്പന നടത്തിയാൽ അവരുടെ ഫാമിലിയിലെ മുഴുവൻ കച്ചവടവും കാലക്രമേണ ആ കടയിൽത്തന്നെ ലഭിക്കും.

അതോടൊപ്പം അവർക്കാവശ്യമുള്ള ഫുഡ് സപ്ലിമെന്റുകൾ, കോസ്മെറ്റിക്സ്, ആയുർവ്വേദ മരുന്നുകൾ തുടങ്ങിയവ ഡോക്ടറുടെ കുറിപ്പടിയില്ലാതെ തന്നെ വിൽക്കാനും കഴിയും. സ്ഥിരം ഇത്തരം മരുന്നുവേണ്ട രോഗികളുടെ ഒരു ലിസ്റ്റും അഡ്രസ്സും ഫോൺ നമ്പറും കടയിൽ സൂക്ഷിച്ചു വച്ചാൽ അവരുടെ വിൽപ്പന ഒരു ഫിക്സഡ് വരുമാനമായി മാറ്റിയെടുക്കാം. അതിനായി കൃത്യതയോടെ, മരുന്നുകൾ മാറിക്കൊടുക്കാതെ, ഡോക്ടറുടെ കുറിപ്പടിപ്രകാരം രോഗിക്ക് നേരിൽ ലഭ്യമാക്കുന്ന പ്രവർത്തി ചെയ്യണം. സമയബന്ധിതമായി അവർക്ക് ഡോക്ടർ കൺസൾറ്റേഷനും ലാബ് ടെസ്റ്റുകളും ബുക്ക് ചെയ്യാനും വേണ്ട സഹായം നൽകിയാൽ ഒരിക്കലും ആ കുടുംബം ആ സഹായം മറക്കുകയില്ല. മക്കൾ ദൂരെയുള്ള, പ്രത്യേകിച്ചും വിദേശത്തുള്ള മാതാപിതാക്കളുടെ ചികിത്സാ സൗകര്യങ്ങൾ ഏറ്റെടുത്തു നടത്തിയാൽ അതും ബിസിനസ്സ് അഭിവൃദ്ധിയ്ക്ക് ഗുണം ചെയ്യും. ഏറ്റവും പ്രധാനം ഇതുപോലുള്ള മാറാ രോഗങ്ങൾക്ക് മരുന്നുകൾ നൽകുമ്പോൾ ആവശ്യമായ ശാസ്ത്രീയ നിർദ്ദേശങ്ങൾ കടയിൽ നിന്നും ലഭ്യമാക്കാൻ ശ്രദ്ധിക്കുകയെന്നതുമാണ്. ഫാർമസിസ്റ്റ് കുറിപ്പടി വിശദമായി പരിശോധിച്ചു മരുന്നുകൾ നൽകുമ്പോൾ അവയുടെ പാർശ്വഫലങ്ങളും അതുപയോഗിക്കുമ്പോൾ വേണ്ട പഥ്യങ്ങളും രോഗിയുടെ അടുത്ത ബന്ധുക്കളെയും ധരിപ്പിക്കുകയെന്നതുമാണ്. മരുന്നുകളിൽ അവർക്കു വിശ്വാസം ജനിപ്പിക്കാൻ അതുവഴി സാധിക്കും. അതിനാൽ എത്ര തിരക്കുണ്ടെങ്കിലും ഇനിയും പ്രതീക്ഷയില്ലാത്ത കടുത്ത രോഗബാധിതരെയും കാൻസർ രോഗികളെയും പ്രത്യേകം പരിഗണനയോടെ മരുന്നുകൾ നൽകിയാത്രയാക്കണം. കടയുടെ പ്രശസ്തിയും വിൽപ്പനയും അതിലൂടെ മെച്ചപ്പെടും ●

തുടരും

Popular Dietary Food supplements

Ashwagandha (Withania somnifera)

Dr. B.Jayakumar

Ashwagandha, commonly known as Indian ginseng or winter cherry, is extensively used in Ayurveda. In modern healthcare, it has transitioned into a nutraceutical and dietary supplement, primarily marketed for stress management, sleep enhancement, vitality, cognitive support, and physical performance. Its adaptogenic properties - supporting the body's ability to cope with physiological and psychological stress-form the cornerstone of its therapeutic appeal.

In India, Ashwagandha is regulated as a nutraceutical and Ayurvedic ingredient under the Food Safety and Standards Authority of India (FSSAI).

Botanical and Phytochemical Profile

Ashwagandha (Withania somnifera) belongs to the Solanaceae family, with the root being the primary plant part used (and occasionally the leaves). It contains key bioactive constituents such as withanolides (including withaferin A and withanolide D), alkaloids (somniferine and tropine), and saponins and sitoindosides. Withanolides are the principal pharmacologically active compounds responsible for its anti-stress, anti-inflammatory, neuroprotective, and endocrine-modulating effects.

Forms and Formulations in Nutraceuticals

Ashwagandha is commercially available in multiple nutraceutical formats, including capsules and tablets containing standardized extracts (typically 2.5–10% withanolides); powder (churna), the traditional form with variable bioavailability; liquid extracts or tinctures, which allow faster absorption and greater dose flexibility; and combination products, where it is often paired with ingredients such as magnesium, melatonin, Brahmi (Bacopa monnieri), or Shatavari (Asparagus racemosus).Standardized root extracts are preferred in modern formulations due to consistent potency and safety.

Dosage and Administration

Common Clinical Dose: 300–600 mg/day of standardized extract, Usually administered in divided doses. Higher doses and longer duration tend to show stronger benefits, particularly in sleep and stress reduction.

Evidence-Based Health Benefits

Stress and Anxiety Management

It reduces stress and anxiety, by lowering serum cortisol levels and modulating the hypothalamic–pituitary–adrenal (HPA) axis, making it the most clinically supported adaptogenic nutraceuticals.

Sleep Quality Improvement

Improves sleep onset latency, total sleep duration and sleep efficiency. Also useful in insomnia and chronic stress, positioning it as a natural alternative or adjunct to sedative agents.

Physical Performance and Recovery

Studies indicate that Ashwagandha supplementation improves muscle strength and size, VO2max (Maximum Oxygen consumption), endurance, and post-exercise recovery, making it beneficial in sports nutrition applications.

Male Reproductive Health

Clinical studies show benefits in Increasing testosterone levels, improving sperm count, motility, and morphology & is thus included in male fertility nutraceuticals.

Cognitive and Neuroprotective Effects

Evidence suggests improvements in Memory, Attention &Information processing speed which are attributed to antioxidant activity and neuroprotective mechanisms.

Safety Profile : Generally safe for short-term use (up to 3 months)

Common Adverse Effects

Reported adverse effects of Ashwagandha include gastrointestinal discomfort, nausea, diarrhoea, and drowsiness, particularly at higher doses.

Serious Safety Concerns

Rare cases of liver injury have been reported, often linked to, High doses, Poor-quality or adulterated products and Poly herbal formulations. Liver function normalizes after discontinuation

Common Homeopathic Remedies

Part- 58

Dr. Anilkumar. V.

HEPAR SULPHURIS

Hepar Sulphuris, also known as Hepar Sulphuris Calcareum, is a well-known homeopathic remedy prepared from Calcium Sulfide and Calcium Chloride. It is traditionally indicated in conditions marked by suppuration (pus formation), heightened sensitivity, inflammation, and glandular involvement. Clinically, it is often considered when symptoms present with sharp pains, extreme tenderness, irritability, and a rapid

tendency toward localized infections..

Therapeutic Uses and Indications

A. Skin, Glands & Suppurative Conditions

Hepar Sulphuris is commonly used in cases involving painful acne, boils, and skin eruptions; burning, itching, and hypersensitive skin; rapid pus formation from minor injuries or infections; swollen and tender lymph nodes-particularly in the neck and jaw; and cracked, inflamed skin of the hands and feet.

B. Respiratory System

Indications may include dry, harsh, and painful coughs; tonsillitis and pharyngitis with sharp, splinter-like throat pain; bronchitis with thick, difficult-to-expectorate mucus; and cough aggravated by exposure to cold air.

C. Oral & Dental Conditions

Oral and dental conditions may include bleeding gums and oral ulcers, toothache accompanied by swelling or infection, dental abscesses, and sensitivity during chewing.

D. Pain & Glandular Inflammation

Pain and glandular inflammation may present as painful glandular swellings, cervical and neck inflammation, and localized abscesses or infected lymph nodes.

E. Other Associated Conditions

Other associated conditions may include sore throat, earache related to infection, and marked sensitivity to cold, touch, or minor stimuli.

Review of Hepar Sulphur Dilution – Reported Benefits

Traditionally reported benefits include reduction in glandular swelling and inflammation; relief from gum bleeding and oral discomfort; improvement in unhealthy, inflamed skin conditions; support in acne, cracked skin, and suppurative lesions; symptomatic relief in sore throat, cough, and earache; and reduction in hypersensitivity and localized inflammatory responses.

Dosage (Traditional Use)

3–5 drops diluted in one teaspoon of water, three times daily, or as directed by a qualified practitioner.

Safety Information

Maintain a 15-minute gap before and after food or other medications; pregnant or breastfeeding women should consult a healthcare professional; avoid alcohol and tobacco during use; and keep out of reach of children.

A Balanced Perspective

Hepar Sulphuris is widely used in homeopathic practice for suppurative and hypersensitive conditions. However, robust scientific evidence supporting homeopathic dilutions remains limited. It should not replace conventional medical treatment, especially in severe infections or systemic illnesses. Professional guidance is strongly recommended

Dr. P .Sarathkumar. Pharm D

Nizatidine

Nizatidine is an antihistamine that inhibits the release of stomach acid, used to treat symptoms of acid reflux such as heartburn, stomach pain, and discomfort. It is classified as a Schedule H prescription drug and has no major safety alerts.

Nizatidine is prescribed for duodenal and gastric ulcers, GERD, erosive oesophagitis, and hypersecretory conditions such as Zollinger–Ellison syndrome.

Mechanism of Action

Nizatidine blocks H_2 receptors on gastric parietal cells, reducing basal, nocturnal, and food-stimulated acid secretion and decreasing pepsin activity. The onset of action is approximately one hour, with a duration of 8–12 hours.

Pharmacokinetics

Nizatidine is rapidly absorbed orally, with a bioavailability of 70–90%. It undergoes minimal hepatic metabolism and is primarily eliminated via the kidneys. The plasma half-life is 1–2 hours, which may be prolonged in patients with renal impairment.

Clinical Uses

Nizatidine is used in the management of peptic ulcer disease, gastroesophageal reflux disease (GERD) and acid reflux, erosive esophagitis, and hypersecretory conditions.

Side Effects

Common: headache, nausea, diarrhea or constipation, fatigue, and dizziness.

Less Common: rash, abdominal discomfort, and elevated liver enzymes.

Rare: hypersensitivity reactions, hepatitis, confusion (particularly in elderly patients or those with renal impairment), and very rare hematologic changes.

Drug Interactions: Nizatidine may alter the absorption of drugs that require acidic gastric pH, such as ketoconazole, itraconazole, iron salts, and atazanavir. It may increase blood alcohol levels. While it can reduce NSAID-induced gastric irritation, the risk of ulcers remains. Drugs whose absorption depends on gastric acidity should be monitored.

Contraindications and Cautions: Nizatidine is contraindicated in individuals with hypersensitivity to H_2 blockers. Caution is advised in patients with renal impairment (dose adjustment may be required) and hepatic impairment (monitoring recommended). It may also mask the symptoms of gastric malignancy.

Dosage Information: Nizatidine is available in oral forms of 150 mg and 300 mg tablets or capsules, as well as an oral solution. It is typically administered once or twice daily depending on the condition, with maintenance therapy often using lower doses. Dose reduction is required in patients with renal impairment. Exact dosing should be determined by a licensed clinician.

Nizatidine is an effective H2 blocker with a strong safety profile and fewer interactions than cimetidine. It remains clinically useful, although market trends favor newer agents like famotidine

ബ്രഹ്മിഘൃതം – ഒരു വിശകലനം

ഇന്നത്തെ വേഗമേറിയ ജീവിതശൈലിയിൽ ബൗദ്ധിക ക്ഷമത, ഓർമ്മശക്തി, ഏകാഗ്രത, പഠനശേഷി എന്നിവ ഉയർന്ന നിലയിൽ നിലനിർത്താൻ നിരവധി പേർ പൗരാണിക ആയുർവേദ ടോണിക്കുകളും ഔഷധസസ്യ ക്കൂട്ടുകളും ഉപയോഗിക്കുന്നു. അതിൽ ഏറ്റവും മികച്ച മേധ്യ രസായനങ്ങളിൽ ഒന്നാണ് ബ്രഹ്മിഘൃതം. കുട്ടികൾ ക്കും മുതിർന്നവർക്കും എളുപ്പത്തിൽ ഉപയോഗിക്കാനാ കുന്ന ഒരു ആയുർവ്വേദ നെയ്യാണിത്.

ഇത് പ്രധാനമായും മസ്തിഷ്കാരോഗ്യം മെച്ചപ്പെടു ത്താനും ഓർമ്മയും ബൗദ്ധികശേഷിയും വർദ്ധിപ്പിക്കാനും ഉതകുന്നു. കൂടാതെ സമ്മർദ്ദം, ഉത്കണ്ഠ, ക്ഷീണം തുട ങ്ങിയ പ്രശ്നങ്ങളിലും ഇത് സഹായകരമാണ്.

ഘടകങ്ങൾ (അഷ്ടാംഗ ഹൃദയം അംഗീകൃത ബുക്കിൽ പ്ര തിപാദിക്കുന്നത്)

ശുദ്ധമായ പശുവിൻ നെയ്യ് – 768 ml

ബ്രഹ്മിയുടെ നീര് –Bacopa Monnieri - 1.537 L

ശംഖപുഷ്പി ചൂർണ്ണം –Convolvulus Pluricaulis - 27g

ത്രികടു ചൂർണ്ണം (Black pepper, Long Pepper, Dried Ginger Powder)– 12g

തൃക്കോൽപ്പകൊന്ന – Operculina Turpethum-12g

വിഴാലരി Embelia ribes-12 g

കണിക്കൊന്ന cassia fistula – 12g

ചീവക്ക Acacia sinuata– 12g

നാഗദന്തി Baliospermum montanum – 12g

നിർമ്മാണരീതി (Method of Preparation)

1. ഔഷധസസ്യങ്ങൾ കഴുകി ഉണക്കി പൊടിക്കുക.
2. എല്ലാ ചേരുവകളും നെയ്യുമായി ചേർത്ത് കുറഞ്ഞ തീയിൽ തിളപ്പിക്കുക.
3. ജലാംശം നീങ്ങി നെയ് മാത്രം ശേഷിക്കുമ്പോൾ തീയിൽ നിന്ന് മാറ്റുക.
4. മുഴുവനും തണുത്ത ശേഷം നേർത്ത മസ്ലിൻ തുണി യിലൂടെ അരിച്ചെടുക്കുക.
5. ആംബർ നിറമുള്ള ഗ്ലാസ് ജാറിൽ സൂക്ഷിക്കുക.

ഗുണങ്ങൾ

1. ബൗദ്ധികക്ഷമത വർദ്ധിപ്പിക്കുന്നു

ബ്രഹ്മിയിലടങ്ങിയ ആന്റിയോക്സിഡന്റുകളും ഫ്ളാവനോ യിഡുകളും ഓർമ്മ, പഠനക്ഷമത, ഏകാഗ്രത, പ്രശ്ന പരിഹാരശേഷി, മാനസിക സന്തോഷം എന്നിവ മെച്ചമാ ക്കുന്നു.

2. മാനസിക ക്ഷീണം കുറയ്ക്കുന്നു

ദീർഘനേരം കമ്പ്യൂട്ടർ, പഠനം, ശ്രദ്ധയാവശ്യമായ ജോലി കൾ എന്നിവ കാരണം ഉണ്ടാകുന്ന തലച്ചോറിന്റെ തളർച്ച, ഉത്സാഹക്കുറവ്, ശ്രദ്ധക്കുറവ് ഇവ ശമിപ്പിച്ച് മാനസിക ശേഷി വർദ്ധിപ്പിക്കുന്നു.

3. അപസ്മാര (Epilepsy) ലക്ഷണങ്ങൾ നിയന്ത്രിക്കുന്നു

ത്രിദോഷങ്ങളെ സംതുലിതമാക്കി അപസ്മാരത്തോടോപ്പ മുള്ള വിറയൽ,അനിയന്ത്രിത ചലനങ്ങൾ,അസന്തുലനാവ സ്ഥ എന്നിവ കുറയ്ക്കാൻ സഹായിക്കുന്നു.

4. മാനസിക സമ്മർദ്ദം, ആകുലത, ഡിപ്രഷൻ എന്നിവ ശമിപ്പിക്കുന്നു

ഡോപ്പമിൻ അളവ് വർദ്ധിപ്പിക്കുന്നു,സെറോട്ടോണിൻ സമതുലിതമാക്കുന്നു, അതുവഴി മനസ്സിന്റെ ഉത്കണ്ഠ കുറയ്ക്കുകയും നിദ്ര മെച്ചപ്പെടുത്തുകയും ചെയ്യുന്നു. അതിനാൽ anxiety, restlessness, depression എന്നിവ യിൽ നല്ലഫലം ലഭിക്കുന്നു.

5. ശരീരദൗർബല്യം കുറയ്ക്കുന്നു

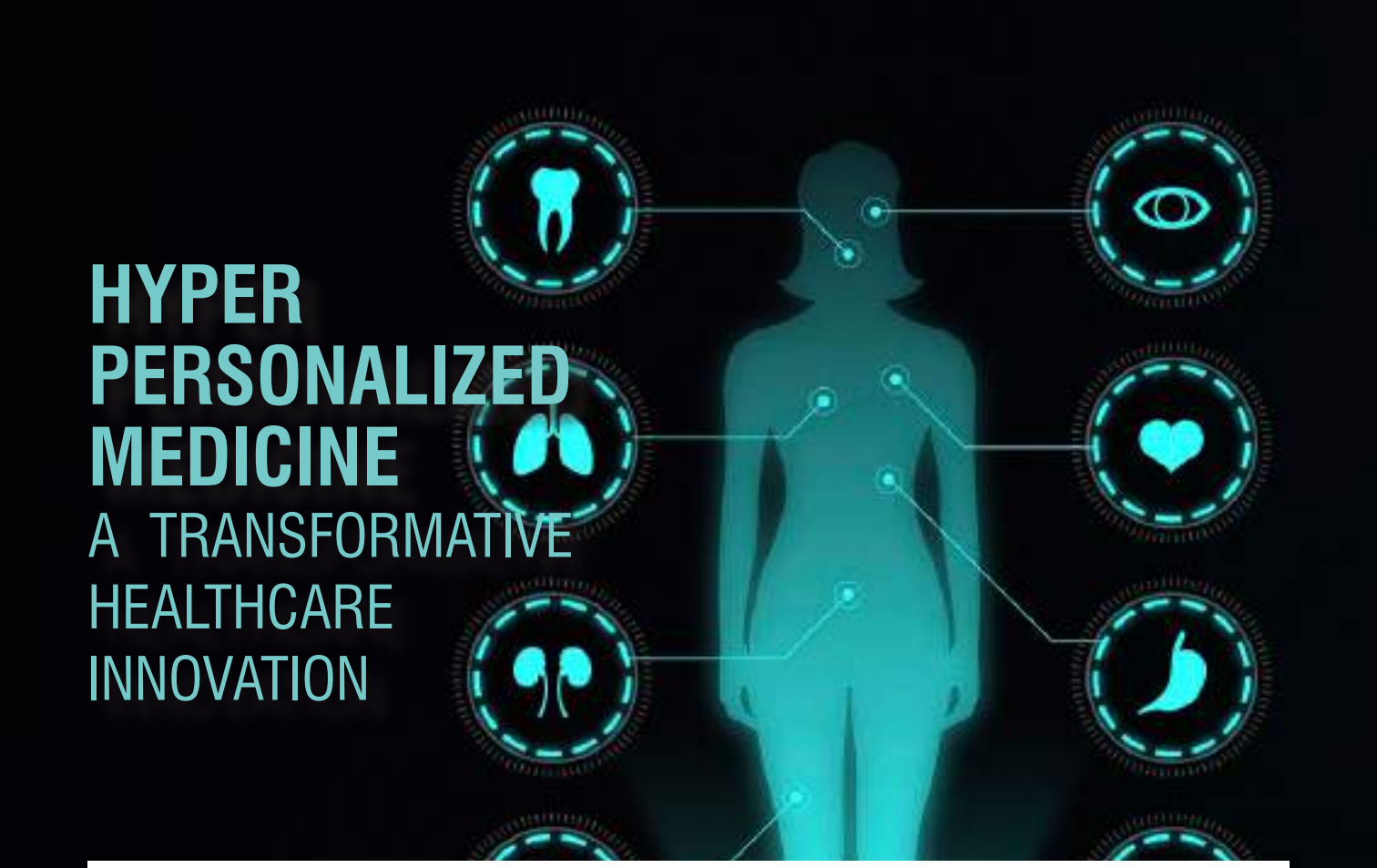
ബ്രഹ്മി ഘൃതം അടങ്ങിയ ഔഷധങ്ങൾ ശരീരശക്തി വർ ദ്ധിപ്പിക്കുകയും, പ്രതിരോധശേഷി മെച്ചപ്പെടുത്തുകയും, ക്ഷീണം, ദൗർബല്യം എന്നിവ കുറക്കുകയും ചെയ്യുന്നു. കൂടാതെ കരൾ, വൃക്ക, ആഡ്രിനൽ ഗ്രന്ഥികൾ എന്നിവ യുടെ പ്രവർത്തനത്തെയും ഉത്തേജിപ്പിക്കുന്നു.

6. ഉപയോഗക്രമം: ഡോസ് രോഗിയുടെ പ്രായവും അവ സ്ഥയും അനുസരിച്ച് വ്യത്യാസപ്പെടുന്നു. സാധാരണയാ യി വെറും വയറ്റിൽ അല്ലെങ്കിൽ ഭക്ഷണത്തിന് മുൻപ് ചെറുചൂടു വെള്ളത്തിൽ അൽപ്പം ഇഞ്ചിനീരും ചേർത്ത് നൽകുന്നു.മുതിർന്നവർക്ക് 5 to 10 gm (1-2 tsp),കുട്ടികൾ ക്ക് 3 to 5 gm (½-1 tsp) ആണ് സാധാരണയുള്ള അളവ്.

പാർശ്വഫലങ്ങൾ

അധികമായി കഴിക്കുമ്പോൾ ദഹനക്കേട്, വയ റുവേദന, ഓക്കാനം എന്നിവ ഉണ്ടാകാം.ഗർഭിണികൾ, പ്ര മേഹരോഗികൾ, ഹൃദ്രോഗികൾ തുടങ്ങിയവർ ഡോക്ടർമാ രുടെ മേൽനോട്ടത്തിൽ മാത്രം ഉപയോഗിക്കുക

ഫാർമഫസ്റ്റ് ഗവേഷണ വിഭാഗം



HYPER PERSONALIZED MEDICINE

A TRANSFORMATIVE HEALTHCARE INNOVATION

Conceptual Evolution: From Personalized to Hyper-Personalized Care

Dietary Guidelines

Traditional personalized medicine primarily tailors treatment based on genetic markers or broad patient subgroups. Hyper-personalized medicine represents a paradigm shift by integrating multi-layered biological, behavioural, and environmental data in real time, enabling ultra-specific, dynamic, and adaptive interventions for each individual.

Rather than asking “What works for patients like you?”, hyper-personalized medicine asks:“What works for you, right now, under your current biological and environmental conditions?”

2. Scientific Foundations: Multi-Dimensional Data Integration

a) Biological Omics Stack

Hyper-personalized medicine is powered by a deep biological understanding through integrated omics sciences:

- Genomics & Epigenomics: DNA variants, gene expression, and epigenetic modifications influencing disease risk and drug response
- Transcriptomics & Proteomics: Active gene transcription and protein interactions driving disease pathways
- Metabolomics: Cellular metabolic profiles reflecting real-time physiological states
- Microbiomics: Gut and tissue microbiota influencing immunity, metabolism, and drug efficacy

This layered data creates a living biological map of the individual, rather than a static genetic snapshot.

b) Lifestyle & Environmental Context

Biology alone does not determine health outcomes. Hyper-personalized medicine integrates multiple factors, including diet, physical activity, and sleep cycles; stress levels and mental health markers; environmental exposures such as pollution, climate, and toxins; and socioeconomic and behavioral determinants. This holistic approach recognizes that while genes "load the gun," it is environment and behavior that "pull the trigger."

3. Enabling Technologies Driving the Innovation

a) Artificial Intelligence & Machine Learning

AI is the central nervous system of hyper-personalized medicine which enables Pattern recognition across massive, heterogeneous datasets, Predictive modelling of disease progression and treatment response and Continuous learning systems that adapt recommendations as new data emerges. AI transforms healthcare from reactive and episodic to predictive and continuous.

b) Genome Editing & Advanced Therapeutics

Technologies such as Clustered regularly interspaced palindromic repeats (CRISPR) -Cas systems enable the correction of pathogenic genetic variants, gene replacement or silencing strategies, and potential curative approaches for monogenic disorders. These advances make n-of-1 therapies possible, which are particularly valuable for rare and ultra-rare diseases.

c) High-Throughput Sequencing & Digital Twins

Rapid sequencing combined with computational modelling allows creation of digital twins - virtual replicas of patients used to simulate disease progression and treatment outcomes before real-world application.

d) Wearables, IoT & Real-Time Biometrics

Smart devices continuously collect data on heart rate variability, glucose levels, sleep quality, and activity patterns. This real-time information feeds adaptive treatment algorithms, enabling precision monitoring and early intervention.

4. Clinical Applications and Value Creation

a) Oncology

Cancer treatment is one of the most mature applications of precision medicine, incorporating tumour-specific genomic profiling, targeted and combination therapies, and resistance prediction with therapy adjustment. This approach improves survival while minimizing unnecessary toxicity.

b) Rare & Genetic Diseases

Hyper-personalized medicine ena bles bespoke gene therapies, patient-specific drug development, and accelerated treatment timelines for small patient populations, thereby redefining ethical and economic models of drug development.

c) Predictive & Preventive Healthcare

By identifying disease risks years before symptoms appear, personalized prevention plans can be implemented,

lifestyle modifications become evidence-driven, and healthcare shifts from treatment toward the preservation of health.

d) Drug Safety & Efficacy

Understanding individual pharmacogenomics allows for optimal drug selection, dose personalization, and a reduction in adverse drug reactions, significantly enhancing patient safety and treatment outcomes.

5. Governance, Ethics, and Systemic Challenges

Despite its promise, hyper-personalized medicine introduces complex challenges.

a) Data Privacy & Ownership

Questions arise regarding who owns multi-omic and behavioral data, how consent is managed for continuous data use, and the risk of misuse or discrimination based on genetic information. Strong governance frameworks and ethical AI principles are essential to address these concerns.

b) Regulatory & Reimbursement Complexity

Traditional regulatory models are designed for mass therapies, but n-of-1 treatments challenge existing approval pathways. Reimbursement systems must also adapt to value-based and outcome-based care.

c) Equity & Access

There is a real risk of creating precision privilege, where advanced care is limited to affluent populations. Inclusive policies are critical to prevent widening health inequities.

6. Alignment with Healthcare 5.0

Human-centred care ensures technology serves individual dignity and wellbeing. Resilience is promoted through early detection and adaptive treatment, reducing strain on healthcare systems. Sustainability is supported by disease prevention and minimizing wasteful interventions. Co-creation positions patients as active partners in health management. This model shifts healthcare from institutions to individuals, supported by intelligent systems.

7. Future Outlook

Over the next decade, hyper-personalized medicine is expected to become standard in oncology, rare diseases, and chronic care. It will integrate more deeply with digital health ecosystems, drive new pharmaceutical research, development, and regulatory paradigms, and redefine medical education to focus on data-driven clinical decision-making.

Hyper-personalized medicine represents one of the most profound transformations in modern healthcare. By uniting biology, technology, data science, and human-centred design, it promises more effective treatments, fewer side effects, predictive prevention, and truly individualized care.

Its success, however, will depend not only on technological advancement but also on ethical governance, equitable access, and system-wide readiness to embrace a fundamentally new way of delivering healthcare

Pharmacy Students Corner

Dr. M.S. Vishnu.Pharm D

The landscape of healthcare is rapidly transforming, and pharmacists are increasingly recognized as essential contributors to clinical decision-making, drug safety, and patient outcomes. Within this shift, the Doctor of Pharmacy (PharmD) program has emerged as a globally relevant qualification. While India continues to expand opportunities for PharmD graduates, international markets offer structured clinical roles, higher salaries, and defined professional pathways.

Pharm D opportunities abroad offer significantly higher salaries, better work-life balance, and deeper integration into advanced clinical roles (like clinical pharmacist in US/UK/Aus) with easier career progression, while India provides growing, but often less clinically focused roles in pharma industry, R&D, and academia, with salaries starting lower but rising with experience; abroad requires licensure exams (FPGEE/NAPLEX for US), but offers global recognition and advanced healthcare systems, contrasting with India's developing clinical roles.

PHARM D IN INDIA: GROWTH, OPPORTUNITIES, AND LIMITATIONS

EMERGING ROLES AND EXPANDING SCOPE:

Clinical pharmacists interact closely with patients and play a vital role in patient care. They provide prescriptions, ensure adherence, monitor treatment progress, assess outcomes, and educate patients on proper drug use and adjustments. Hospital pharmacists manage the preparation, storage, and supply of medicines within hospitals,

ensuring safe and effective use.

CAREER OPTIONS AFTER PHARM D: INDIA VS. ABROAD.

- Hospital pharmacists : ensure that medicines are ordered in advance, stored securely, prepared, and dispensed within hospitals. They also manage the pharmacy, monitor medicine supplies, and enforce safety protocols.
- Clinical Pharmacy: Participation in ward rounds, patient counseling, and medication therapy management.
- Hospital Pharmacy: Oversight of medication procurement, storage, and distribution.
- Pharmacovigilance: Adverse event monitoring, case processing, and drug safety.
- Regulatory Affairs: Compliance with pharmaceutical laws and international standards.
- Academia: Teaching, mentoring, and research roles.

GOVERNMENT OPPORTUNITIES:

- Drug Inspector
- Government Hospital Pharmacist
- Lecturer/Assistant Professor
- Research Scientist

SALARY TRENDS:

- Entry-level: ₹3–7 LPA
- Mid-level: ₹8–12 LPA
- Specialized roles: Up to ₹20–25 LPA

PHARM D OVERSEAS: HIGH RECOGNITION AND STRONG CLINICAL INTEGRATION

GLOBAL ACCEPTANCE:

Those who have done B. Pharm, M.Pharm, and Pharm D are equivalent in terms of degree, and they serve the role of a pharmacist in India and abroad. However, Pharm D is the only degree considered a pharmacist in the USA, UAE, Ireland, and Canada.

Their roles include clinical pharmacist, drug information specialist, regulatory officer, and research scientist.

WORK-LIFE BALANCE AND SALARY:

- USA: $120,000–$150,000+
- Canada: CAD 80,000–120,000
- Australia: AUD 85,000–120,000
- Gulf Countries: High salaries with tax benefits

LICENSING REQUIREMENTS:

- USA: FPGEE → NAPLEX → MPJE
- Canada: PEBC Exams
- UK: OSPAP + G Ph C Registration
- Australia: AHPRA Registration

KEY DIFFERENCES BETWEEN INDIA AND OVERSEAS:

- Clinical integration is stronger abroad.
- Salaries abroad are significantly higher.
- Licensing is mandatory overseas.
- India offers strong opportunities in industry, research, and academia.
- Overseas roles offer clearer clinical career pathways.

DIVERSE CAREER PATHWAYS FOR PHARM D GRADUATES:

- Clinical Pharmacist / Hospital Pharmacist
- Medical Affairs / Drug Safety Associate
- Medical Science Liaison
- Clinical Research Associate
- Medical Writer
- Regulatory Affairs Specialist
- Healthcare Consultant
- Clinical Data Manager
- Academic Faculty / Research Scholar

The Pharm D degree opens meaningful career opportunities both in India and abroad. India provides a strong foundation through pharma industries, research organizations, and emerging clinical roles. Overseas markets offer highly structured clinical frameworks, clear progression, and better remuneration. The best career path depends on individual interests-clinical care, research, regulation, academia, or global mobility. With the right planning, Pharm D graduates can build fulfilling careers anywhere in the world

ആരോഗ്യദൃശ്യം

കെ.എസ്. അരവിന്ദാക്ഷൻ

ഫാർമ ഫസ്റ്റ്
Vol-8 Issue-01 February 2026

RNI Reg. No : KERBIL/2019/77253
of the Registrar of Newspapers for India
Published on 05 February 2026

Price: ₹50/-
Annual Sub: ₹600/-

Owner, M. R. Pradeep, Publisher, M. R. Pradeep, Printer, M. R. Pradeep, Printed at Sarva Print Hub for Sterling Print House Pvt.Ltd and published from M/s Pharmafirst, Door No.M .P 6/126 T1A1, Flat No. 1 A, Nama East Fort Apartment, M C Road, Muvattupuzha. Pin: 686673. Editor, M. R. Pradeep. M. Pharm.