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CURRENT AFFAIRS

Date: 16 August 2023

DRUG-RESISTANT TB

This article covers "Daily Current Affairs" and the topic details "Drug-Resistant TB". The topic "Drug-Resistant TB" has relevance in the "Science and Technology" section of the UPSC CSE exam.

For Prelims:

What is Tuberculosis (TB)?

What is DR TB?

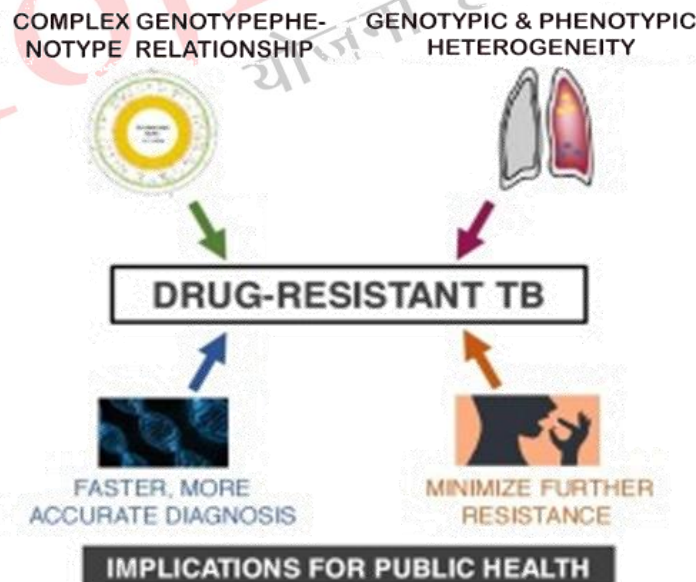
For Mains:

GS3: Awareness in Health

Why in the news?

The formidable problem of drug-resistant tuberculosis (DR-TB) necessitates immediate and serious consideration. Given that India bears a quarter of the global burden of DR-TB cases, the way India responds could influence how other nations confront this escalating danger.

BIOLOGICAL MECHANISMS



Tuberculosis (TB)

- Tuberculosis (TB) is an infectious disease caused by bacteria that are transmitted through the air from one person to another.

- While TB primarily affects the lungs, it can also target other body parts such as the brain, kidneys, or spine.
- While TB is generally treatable and can be cured, individuals with TB can face fatal outcomes if they are not provided with appropriate treatment.

Emergence of Drug-Resistant TB

- Occasionally, a more challenging form known as drug-resistant TB arises when the TB bacteria become immune to the drugs typically employed for TB treatment.
- This implies that the drugs are no longer effective in eradicating the TB bacteria.

Transmission of Drug-Resistant TB

- The transmission of drug-resistant TB occurs through the same methods as drug-susceptible TB.
- This airborne bacteria can be inhaled by people in close proximity, leading to infection.

Drug-Resistant Tuberculosis: Causes and Risk Factors

- **Incomplete Treatment Courses:** Individuals failing to complete the full prescribed course of TB treatment contribute to the development of drug-resistant strains.
- **Inaccurate Prescription:** Health care providers prescribing treatments with incorrect dosages or durations inadvertently foster the emergence of drug resistance.
- **Unavailability of Proper Medications:** A lack of access to appropriate TB drugs can hinder effective treatment, thereby enhancing the risk of drug-resistant TB.
- **Quality of Drugs:** Poor-quality drugs, characterized by substandard potency or formulation, can render TB treatment ineffective and potentially lead to drug resistance.

Types of DR- TB

- **Multidrug-Resistant TB (MDR TB)**
 - Multidrug-resistant TB (MDR TB) arises from TB bacteria exhibiting resistance to two pivotal TB drugs: *isoniazid* and *rifampin*.
 - These two drugs form the backbone of treatment for all individuals afflicted by TB disease.
 - The consultation of TB experts is imperative when managing MDR TB cases
- **Pre-Extensively Drug-Resistant TB (pre-XDR TB)**
 - Pre-Extensively Drug-Resistant TB (pre-XDR TB) constitutes a subset of MDR TB.
 - It develops when TB bacteria display resistance to *isoniazid*, *rifampin*, and either a *fluoroquinolone* or a second-line injectable drug (such as amikacin, capreomycin, and kanamycin)
- **Extensively Drug-Resistant TB (XDR TB)**
 - Extensively drug-resistant TB (XDR TB) represents a rare form of MDR TB with heightened resistance.
 - TB bacteria in XDR TB cases are not only impervious to *isoniazid* and *rifampin* but also to a *fluoroquinolone* and a second-line injectable drug (like amikacin, capreomycin, and kanamycin).
 - Alternatively, XDR TB can emerge when TB bacteria resist isoniazid, rifampin, a fluoroquinolone, and either *bedaquiline* or *linezolid*.

- Because XDR TB displays resistance against the most potent TB medications, patients confront treatment options of significantly diminished efficacy.
- Notably, individuals with compromised immune systems, particularly those with HIV infection or other immune-weakening conditions, face heightened vulnerability.
- Such individuals are not only more prone to developing TB disease post-infection but also encounter an elevated risk of mortality once the disease takes hold.

TB Situation in India

- The situation of multidrug/rifampicin resistant TB (MDR/RR-TB) in India is concerning. The WHO estimates around 119,000 new MDR/RR-TB cases emerge in India annually. However, in 2022, the Indian TB program reported only around 64,000 cases.
- India aims to eliminate TB by 2025, with targets like reducing new TB cases to 44 per lakh population, mortality to 3 deaths per lakh, and eliminating catastrophic costs.

Challenges in Achieving India's TB Elimination Targets

- **MDR-TB as a Major Hurdle:**
 - Rifampicin resistance is a significant concern, as it is the most effective first-line drug.
 - Resistance to rifampicin and isoniazid is termed MDR-TB. Despite progress, DR-TB remains a public health threat in India.
- **Divergence from WHO Recommendations:**
 - While WHO recommended the use of the BPaL regimen (Bedaquiline, Pretomanid, and Linezolid) for DR-TB patients, India has continued using a mix of treatment options, many of which are challenging to adhere to.
 - The BPaL regimen has shown an 89% success rate, reduced pill burden, and shorter treatment duration.
- **Reliance on Outdated Detection Methods:**
 - India continues to rely on traditional methods like sputum smear microscopy, which only detects half of all TB cases and cannot identify drug resistance.
 - Molecular diagnostics, recommended by WHO, are more accurate and cost-effective.
- **Private Sector Engagement:** Scaling up private sector involvement is crucial, given their potential to improve treatment outcomes.
- **High DR-TB Burden:** DR-TB cases require expensive specialized drugs and prolonged treatment.
- **Research and Cost Control:** Lack of research and cost control measures hinder effective TB management.
- **Undernutrition and Immunity:** Undernourishment weakens immunity, leading to TB reactivation.
- **Treatment Discontinuation:** Limited resources and financial constraints cause many to abandon treatment midway.
- **Drivers of TB Epidemic:** Delayed diagnosis, inadequate treatment, high recurrence rates, drug resistance, comorbidities (diabetes, HIV), and urbanisation contribute to the ongoing TB crisis.

Achievements and Path Forward

- **Enhanced Diagnosis:** Rapid molecular diagnostics, akin to those used during the COVID-19 pandemic, aid in rapid TB detection.

- **Reduced DR-TB Treatment Duration:** Shortened treatment duration (from 24 to 6 months) with oral medications, avoiding painful injections.
- **Recommended BPaL Regimen:** Shifting to the WHO-recommended BPaL regimen promises higher success rates and substantial cost savings.
- **Availability of New Tools:** Accurate diagnostic tools can facilitate the cure of DR-TB within six months using oral medications.

Advancing TB Management in India

- Access to optimal diagnostic and treatment options is a fundamental right. Leveraging advanced tools is essential to prevent suffering and deaths due to drug-resistant TB.
- India's adoption of the WHO-recommended BPaL regimen, wider implementation of accurate diagnostics, and continued efforts are pivotal to achieving the ambitious goal of TB elimination by 2025.

Sources:

India's TB problem and the right to treatment | The Indian Express

Q1. With reference to Tuberculosis, consider the following statements:

1. Tuberculosis (TB) is caused by a virus that spreads through the air from person to person.
2. TB can affect various body parts beyond the lungs, such as the brain, kidneys, or spine.
3. Drug-resistant TB can occur when the TB bacteria develop immunity to commonly used drugs.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) None

Answer: (b)

Q2. Consider the following :

1. Poor-quality drugs, characterised by substandard potency or formulation, can render TB treatment ineffective and potentially lead to drug resistance.
2. Multidrug-resistant TB (MDR TB) develops when TB bacteria become resistant to the second line of drugs.
3. Isoniazid and rifampin are among the primary drugs used for initial treatment.

How many of the above mentioned statements are correct ?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b)

Q3. What does the term “drug-resistant tuberculosis (DR-TB)” refer to, and why is it considered a pressing concern? How can India's response to the issue of drug-resistant tuberculosis influence the global approach to this problem?

Gaurav Nikumbh

FLOATING RATE LOANS

This article covers "Daily Current Affairs" and the topic details "Floating Rate Loans". The topic "Floating Rate Loans" has relevance in the Economy section of the UPSC CSE exam.

For Prelims:

Understanding Floating Rate Loans?

For Mains:


GS 3: Economy

Significance of the Transparent Framework?

Understanding the Base Rate in India?

Why in the news:

The Reserve Bank of India (RBI) has announced its plans to implement a comprehensive framework that focuses on increasing transparency and setting clear guidelines for the recalibration of Equated Monthly Installments (EMIs) for floating rate loans.

FIXED RATE	FIXED RATE Vs FLOATING RATE OF INTEREST	FLOATING RATE
BENEFITS Interest Rate remains fixed irrespective of Market Conditions. A fixed rate home loan is good for those who want a fixed monthly repayment schedule. It brings a sense of Certainty and Security.	 What is Fixed Rate of Interest Fixed Interest Rate means repayment of home loans in Fixed Equal Instalments over the entire period of loan. What is Floating Rate of Interest Floating rate varies with the market conditions. Floating interest rate home loans are tied up to a base rate plus a floating element.	BENEFITS At least 1-2% cheaper than fixed interest rates. Over a long period, interest rates may fall. Floating interest rates bring savings.
DRAWBACKS: Usually 1 - 2.5% more than the floating rate home loan.		DRAWBACKS: Uneven nature of monthly instalments make financial planning difficult.

Understanding Floating Rate Loans

Floating rate loans, also known as variable or adjustable-rate loans, feature interest rates that change periodically based on a benchmark rate or base rate.

This base rate is influenced by market forces and can vary over the loan's term. Such loans are commonly used for mortgages, credit cards, and consumer loans.

Significance of the Transparent Framework: In response to the lending practices of some banks, the RBI has introduced a transparent framework for floating rate loans. This framework addresses issues where banks were extending loan tenures without informing borrowers, resulting in extended repayment periods without consent.

Key Features of the RBI's Framework:

- **Clear Communication:** Lenders are required to transparently communicate with borrowers about resetting the tenor and/or EMI.

- **Flexibility for Borrowers:** Borrowers should be given the option to switch to fixed-rate home loans or foreclose loans without penalty.
- **Disclosure of Charges:** Banks must disclose charges associated with options like switching and foreclosure in advance, enhancing transparency.
- **Ethical Loan Recovery:** Lenders must avoid unethical practices in loan recovery, ensuring borrowers are treated with respect and dignity.

Benefits for Borrowers and Lenders: Benefits for Borrowers:

- **Clarity and Transparency:** Borrowers gain clarity and transparency in floating rate loans, allowing informed decisions.
- **Protection from Unfair Changes:** Borrowers are safeguarded against arbitrary interest rate or EMI changes, enabling better financial planning.
- **Dignified Treatment:** Borrowers will not face harassment or abuse during loan recovery, ensuring respectful treatment.
- **Choice and Flexibility:** Borrowers can switch loan types or foreclose loans without hassle or penalty, enhancing flexibility.

Benefits for Lenders:

- **Customer Relations:** Lenders can maintain good relations and trust with customers, avoiding reputational risks.
- **Asset Quality and Risk Management:** Lenders can improve asset quality and risk management practices.
- **Regulatory Compliance:** Lenders ensure compliance with regulatory norms and expectations, mitigating legal risks.

The transparent framework introduced by the RBI aims to provide borrowers with fair treatment, enhanced transparency, and the ability to make informed decisions regarding their floating rate loans. It also encourages ethical practices among lenders, benefiting both borrowers and financial institutions.

Understanding the Base Rate in India:

The base rate is the minimum interest rate set by the Reserve Bank of India (RBI) below which banks are not permitted to lend to their customers. This regulatory measure was introduced to enhance transparency in the credit market and ensure that banks pass on the benefits of lower funding costs to their borrowers. The pricing of loans involves adding the base rate to an appropriate spread based on the credit risk associated with the borrower.

Factors Influencing the Base Rate:

Each bank can determine its own base rate while adhering to the guidelines provided by the RBI. The base rate encompasses elements of lending rates that are consistent across all borrower categories. Several factors play a role in determining the base rate, including:

- **Cost of Funds:** This refers to the interest rate paid by banks on deposits. The cost of obtaining funds from depositors significantly affects the base rate.
- **Operating Expenses:** Banks' operational costs, which include administrative expenses and overheads, are considered in determining the base rate.
- **Minimum Rate of Return (Profit):** Banks need to ensure a minimum level of profit to sustain their operations. The desired profit margin contributes to setting the base rate.

- **Cost of Cash Reserve Ratio (CRR):** Banks are required to maintain a certain portion of their deposits as reserves with the RBI, known as the Cash Reserve Ratio (CRR). The cost associated with holding these reserves without earning interest affects the base rate.

Variations in Base Rate: Different banks might have distinct base rates due to variations in one or more of the above factors, primarily the cost of funds and operational efficiency. While these factors can cause fluctuations in base rates from one bank to another, the base rate serves as a benchmark to ensure a standardized and transparent lending mechanism in the banking sector.

SOURCE:

<https://indianexpress.com/article/explained/explained-economics/floating-rate-loans-rbi-lending-conduct-8887167/>

Q.1 Consider the following statements:

1. The interest rate of floating rate loans changes periodically based on market conditions.
2. Floating rate loans are not influenced by changes in the benchmark rate.
3. The benchmark rate for floating rate loans remains constant over time.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

ANSWER: A

Q.2 Consider the following statements:

1. It ensures that banks pass on the benefits of lower funding costs to borrowers.
2. The base rate is a benchmark for determining the minimum interest rate applicable to all types of loans offered by banks.
3. It determines the minimum interest rate that banks can offer on deposits.

How many of the above statements is/are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

ANSWER: B

Q.3 Discuss the significance of transparency in the context of floating rate loans and its implications for borrowers and financial institutions.

Rishabh