IMPROVING PALLIATIVE CARE IN INDIA: CHALLENGES AND THE WAY FORWARD

GS II: Health

Source: TH

Understanding Palliative Care:

- Palliative care is a specialized branch of medicine focused on enhancing the **quality of life** and alleviating suffering among individuals with **life-limiting illnesses** such as heart failure, kidney failure, neurological diseases, and cancer.

- Often mistaken for end-of-life care, it emphasizes holistic support for patients, addressing their physical, psychological, spiritual, and social needs.
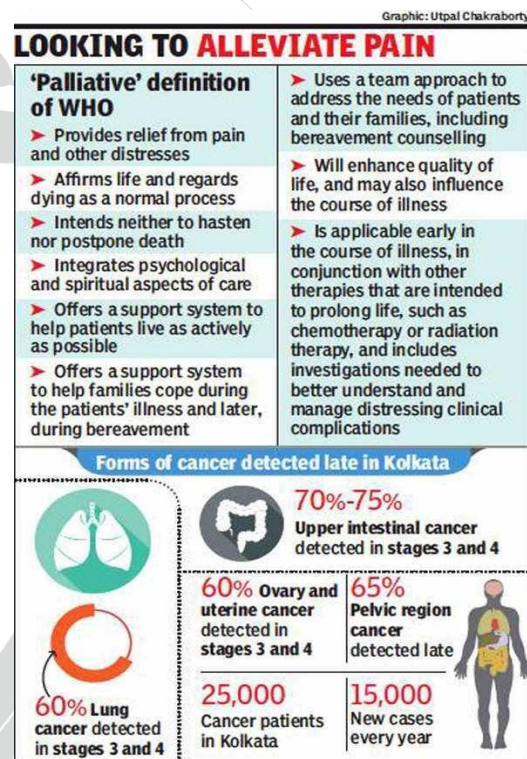
Objectives of Palliative Care:

- Identify patients at risk of over-medicalization to ensure a **balance between quality of life and medical interventions**, reducing financial burden on families.

- Address the multidimensional aspects of health for those with life-limiting diseases, offering support in various areas.

- Provide **bereavement and grieving support** to caregivers after the patient's death.

Palliative Care Needs in India:

- India is experiencing a significant rise in lifestyle-related non-communicable diseases, including cancer, diabetes, hypertension, and respiratory ailments.

- **Approximately 7-10 million people in India** require palliative care at some point in their disease trajectory.

Current Status of Palliative Care in India:

- Palliative care services are disproportionately available in tertiary healthcare facilities, mainly in **urban areas**, reaching **only 1-2%** of those who need it across the country.

- Health-related expenditures push **55 million people below the poverty line** annually, indicating the impact of over-medicalization.

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Initiatives Taken:

- The government has implemented various health programs and schemes, including the **Ayushman Bharat Health Insurance Scheme** and the **National Programme for Health Care for the Elderly**.

- NGOs like Pallium India, Karunashraya, and CanSupport play a significant role in providing palliative care, although they face limitations in terms of resources compared to the government.

- The **National Programme for Prevention & Control of Non-Communicable Diseases** (NP-NCD) was launched to address non-communicable diseases and now incorporates palliative care in its revised operational guidelines.

Gaps in Guidelines:

- The guidelines focus on palliative care **only in the context of cancer**, whereas there is a higher need for it in non-cancer illnesses as well.

- **Lack of mention of home-based palliative care services**, which are crucial for patients with debilitating diseases.

- Pediatric palliative care is not addressed, **neglecting** the needs of **children with chronic illnesses**.

- Linking multiple programs, including NPPC, **without clear mechanisms** for convergence creates uncertainty.

Way Forward:

Strengthening State-level Implementation:

- Enhance the implementation and monitoring of the National Palliative Care Policy (NPPC) at the state level.
- **Allocate adequate funding**, **human resources**, and **infrastructure** to support palliative care services.

National Standards and Guidelines:

- Develop and implement **national standards** and **guidelines** for palliative care services.
- Focus on **quality assurance** to ensure consistent and effective care.

Education and Training:

- Enhance education and training programs for palliative care professionals and volunteers.
- Offer training at various levels and settings to improve service delivery.

Integration into Health Systems:

- Respond to the **67th World Health Assembly's call** for integrating palliative care into health systems at all levels.
- Integrate palliative care into mainstream healthcare services.

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Referral and Linkage Mechanisms:

- Improve the referral and linkage mechanisms between different healthcare providers for palliative care.
- Facilitate **seamless coordination** and **collaboration among healthcare professionals** for comprehensive care.

Conclusion:

- India must recognize the escalating challenge of non-communicable diseases and strengthen its palliative care services to provide compassionate support and relief to those in need.

PRELIMS SPECIFIC INFORMATION ON PALLIATIVE CARE

- The main goal of the policy is to **lower the high expenses of treating rare diseases** by placing more **focus on domestic research**.
- It is a part of the **National Health Mission's Non-Communicable Disease** Control Programs.
- **Enhance** the ability of government health programs like the **National Program for the Prevention and Control of Cancer, Cardiovascular Disease, Diabetes, and Stroke, National Program for the Health Care of the Elderly, National AIDS Control Program, and National Rural Health Mission** to deliver palliative care services.

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PROJECT-75I: INDIA'S ADVANCED CONVENTIONAL SUBMARINE PROCUREMENT

GS III: Defense

Source: TH

About Project-75I:

- The Indian Navy plans to acquire six advanced conventional submarines through the **Strategic Partnership (SP) model**.

- These **diesel-electric submarines** will be equipped with **advanced Air-independent propulsion** (AIP) systems.

- A teaming agreement has been signed between Spanish submarine manufacturer Navantia and India's Larsen and Toubro (L&T) to jointly bid for Project-75I.

- The project requires an Indian bidder to collaborate with a foreign partner for building the submarines, with increasing indigenous content from 45% in the first to 60% in the sixth submarine.

What is Submarine?

- A submarine is a vessel, or ship, that can go underwater. Submarines are called **subs for short**. Militaries and scientists use submarines to travel deep under the ocean.

Types of Submarines:

- **Conventional or Diesel-electric submarines:** They **require atmospheric oxygen** to run the diesel generator, which charges the batteries for propulsion.

PROJECT 75 SUBMARINES

- **Six Scorpene** class submarines were constructed as part of Project 75. The list of names for Project 75 submarines is provided below.
- **Launch** of KALVARI-CLASS Submarine: **2015**
  2017 — Commissioned
  Feature: Project 75 includes a **diesel-electric** attack submarine of the **Kalvari class**. It is based on submarines of **the Scorpène-class**.
- **Launch** of KHANDERI: 2017
  2019 — Commissioned
  Khanderi is the **second** of the six **diesel-electric** assault submarines of the **Kalvari** class that the **Indian Navy is developing** under Project 75.
- **Launch** of INS KARANJ: 2018
  2021 -- Commissioned
  Feature: Project 75 includes **a diesel-electric attack** submarine based on the **Scorpene class**.

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- **Launch** of the **INS Vela: 2019**
  2021 -- Commissioned
  Features: Project 75 is a **diesel-electric attack** submarine based on the **Scorpène class.**
- **Launch** of **INS Vagir: 2020**
  2023 -- Commissioned
  Features of the **diesel-electric** assault submarine **Project 75**, based on the **Scorpène class.**
- **Launch** of **INS Vagsheer**: **2022**
  Not determined: Commissioned
  Features is that it is based on the Project 75 **Kalvari-class submarine**.

- **Nuclear Submarines:** These are powered by a **nuclear reactor and offer significant performance** advantages over conventional submarines.

Air-independent propulsion (AIP) System:

- AIP systems were developed to address the challenge of finding effective propulsion methods underwater.

- It is typically used as an **auxiliary source**, supplementing traditional diesel engines for surface propulsion.

- AIP systems **generate electricity to power electric motors for propulsion** or recharge the submarine's batteries.

- They allow submarines to **remain submerged for longer periods by reducing the need for surfacing to recharge batteries**.

- AIP systems **decrease the noise levels of submarines**, making them harder to detect.

Types of AIP Systems:

- Open-cycle systems
- Closed-cycle diesel engines
- Closed-cycle steam turbines
- Stirling cycle engines
- Fuel cells

Advantages of Air Independent Propulsion (AIP) System:

1. **Enhanced Lethality and Stealth:**

   - AIP-equipped submarines **need to surface less frequently**, increasing their lethality and stealth capabilities.

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- Diesel-electric submarines require **frequent surfacing to charge batteries**, limiting their underwater endurance.

2. **Reduced Dependency on Surface Air:**

- AIP technology makes **diesel generators less reliant on surface air**, extending the submarines' submerged operation time.

Classes of Submarines in the Indian Navy:

1. **Arihant Class:**

- Indian nuclear-powered ballistic missile submarines classified as **'strategic strike nuclear submarines.'**

2. **Scorpene Class:**

- Conventional powered submarines weighing 1,500 tonnes with a depth capacity of 300m.

3. **Sindhughosh Class**:

- Kilo-class diesel-electric submarines designated as 877EKM.

4. **Shishumar Class:**

- Diesel-electric submarines developed by the German yard Howaldtswerke-Deutsche Werft (HDW).

Importance of Submarines for India

1. **Maritime Security:**

- Submarines are crucial for India's maritime security to safeguard its coastal waters and territorial interests.

2. **Rising Chinese Presence**:

- With China increasing its naval presence in the Indian Ocean, India needs submarines to maintain strategic dominance.

Analysis and Clarifications:

1. **P-75I Project:**

- Claims of the P-75I being unviable lack evidence, and the Navy has not indicated any such concerns.

- The condition for foreign collaborators to provide a proven AIP system limits the number of eligible bidders.

2. **Aatmanirbhar Bharat:**

- Canceling P-75I for repeat orders does **not significantly** promote **'Aatmanirbhar Bharat.'**

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- Previous projects like Project 75 faced technology transfer issues with foreign companies.

3. **Lithium-ion Batteries vs. AIP:**

   - Claims favoring lithium-ion batteries over AIP are flawed.

   - While lithium batteries offer certain advantages, they suffer from stability and safety risks, making AIP a viable alternative.

Project-75I aims to enhance the Indian Navy's underwater capabilities by acquiring advanced submarines equipped with AIP technology through collaboration with foreign partners and increasing indigenous content over time.

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NORTH INDIA'S MONSOON MAYHEM: A COMPLEX INTERACTION

GS I: Geography

Source: TH

Recent news: Reports highlighted the occurrence of heavy monsoon rains in North Indian states, leading to extensive destruction, loss of lives, and damage to property. The rainfall in the region was caused by the **convergence of two weather systems**, namely the **monsoon winds and a western disturbance**.

Western Disturbances:

- Western Disturbances are extratropical storms originating in the Mediterranean region.

- They **affect weather conditions in northern India**, bringing rainfall and snowfall to the Himalayan region and influencing the Indo-Gangetic plains.
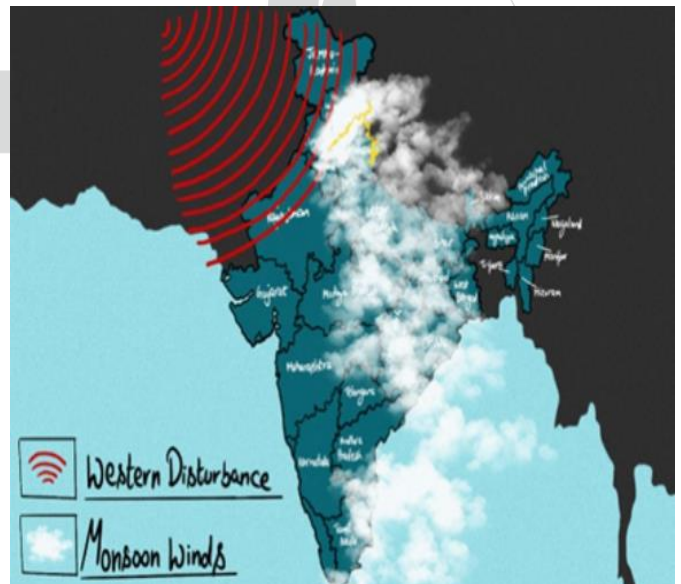
Unique Monsoon Onset:

- This year's monsoon onset was delayed due to interactions between typhoons and cyclones.

- **Cyclone Biparjoy's** extended presence delayed the monsoon's arrival in Mumbai by nearly two weeks.

- Mumbai and Delhi saw simultaneous monsoon arrival for the first time in over 50 years.

Incessant Heavy Rain:

- A rare interaction of climatic factors led to incessant heavy rain in large parts of north India.

- Delhi recorded 153 mm of rain in 24 hours on July 9, the highest for July since 1982.

Interaction of Systems:

- The heavy rain in Himachal Pradesh and Uttarakhand resulted from the interaction of monsoonal winds with a western disturbance.

- A trough extended from Rajasthan to the north Arabian Sea associated with a western disturbance.

- The confluence of these systems with monsoon winds from the Bay of Bengal caused **very heavy showers**.

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Global Warming's Influence:

- In a **warmer and more humid world due to global warming**, all weather events have some contribution from it.

- Excess rainfall in northwest India is consistent with the Arabian Sea warming by about 1.5 degrees Celsius since January.

Role of Atlantic Ocean:

- The entire Atlantic Ocean has been warmer than normal, which could impact monsoon rainfall.

Role of Upper Atmospheric Circulation:

- **Upper atmospheric winds** can **break into clockwise and anticlockwise patterns**, influencing weather conditions.

- Convergence of winds near the surface can drive excess rainfall.

The ongoing monsoon mayhem in North India results from a complex interaction of various factors, including western disturbances, monsoonal winds, global warming's impact, and the Atlantic Ocean's behavior. Understanding these interactions is crucial for forecasting and managing extreme weather events in the region.

PRELIMS SPECIFIC FACTS ON INDIAN MONSOON
• Near the **southernmost point** of the Indian peninsula, the monsoon often arrives in the first week of June. The **Arabian Sea branch** and the **Bay of Bengal branch** are the two subsequent divisions.
• The **Monsoon onset** occurs between **early and mid-June**, when the first wave of winds from the monsoon arrive on the **Indian peninsula's western coast.**
• The thunderstorm formation over the **Bay of Bengal** is **mango showers**.
• In **Bengal,** they are also referred to as **"Kaal Baisakhi,"**
• In **Assam**, as **"Bordoisila,"** and
• In **Karnataka**, as **"Cherry Blossom Showers"** or **"Coffee Showers."**

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