



Sickle Cell Disease

Why in News?

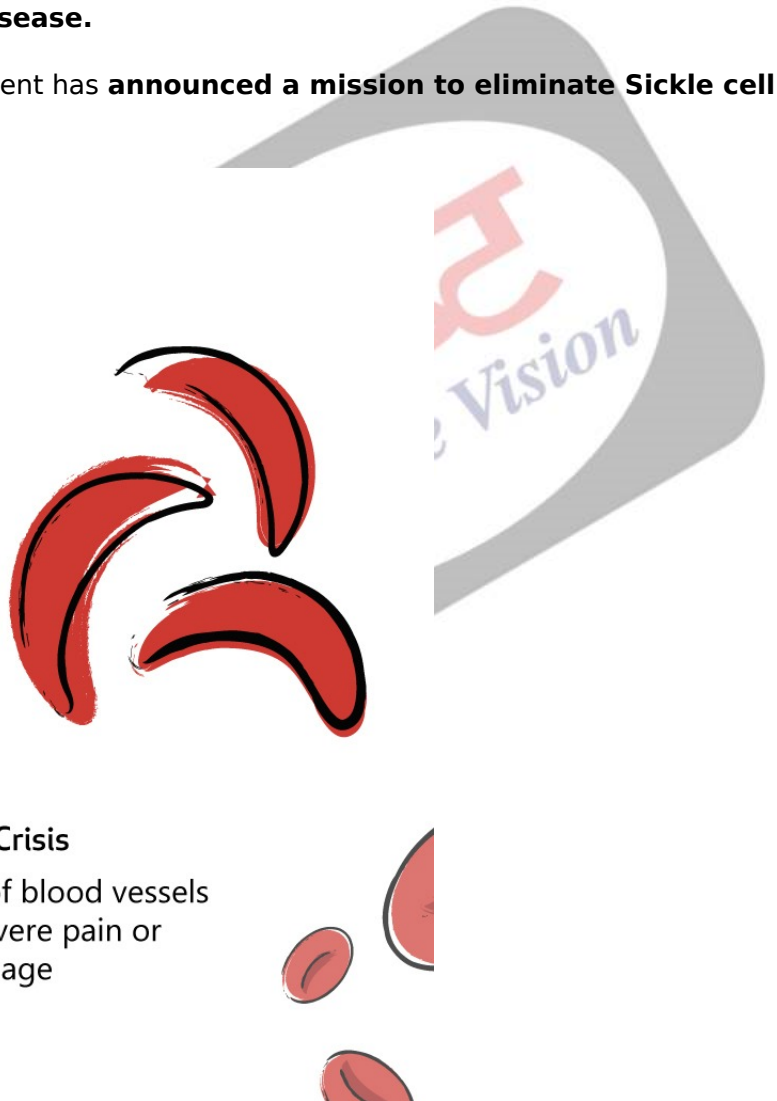
The **Government of India**, through the [National Health Mission](#), is supporting the states in their **efforts to prevent and manage sickle cell disease**.

- In [Union Budget 2023-24](#), the government has **announced a mission to eliminate Sickle cell Anaemia by 2047**.

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What are Sickle Cell Disorders?

- A group of disorders that cause red blood cells to become misshapen and break down.
- The cells die early, leaving a short age of healthy red blood cells and can block blood flow causing pain.



Types:

Sickle Cell Anaemia

Dysfunctional red cells due to abnormal haemoglobin

Sickle Cell Crisis

Blockage of blood vessels causing severe pain or organ damage

What is Sickle Cell Disease (SCD)?

- **About:**
 - **SCD** is a **chronic single gene disorder** causing a debilitating systemic syndrome characterized by **chronic anaemia, acute painful episodes, organ infarction and chronic organ damage** and by a significant reduction in life expectancy.
- **Symptoms:**
 - Symptoms of sickle cell disease can vary, but some common symptoms include:

- **Chronic Anaemia:** leading to fatigue, weakness, and paleness.
- **Painful episodes** (also known as sickle cell crisis): these can cause sudden and intense pain in the bones, chest, back, arms, and legs.
- **Delayed growth and puberty**

▪ **Treatment:**

- **Blood Transfusions:** These can help relieve anaemia and reduce the **risk of pain crises**.
- **Hydroxyurea:** This is a medication that can help **reduce the frequency of painful episodes** and prevent some of the long-term complications of the disease.
- It can also be treated by **bone marrow or [stem cell transplantation](#)**

▪ **Government Initiatives to Tackle SCD:**

- Government has released **technical operational guidelines for prevention and control of hemoglobinopathies in 2016** including sickle cell **anaemia**.
- Integrated centers have also been established in **22 tribal districts for treatment and diagnosis**.
- The **[State Haemoglobinopathy Mission](#)** has been established in **Madhya Pradesh** to address the challenges in screening and management of the disease.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. What are the research and developmental achievements in applied biotechnology? How will these achievements help to uplift the poorer sections of society? **(2021)**

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