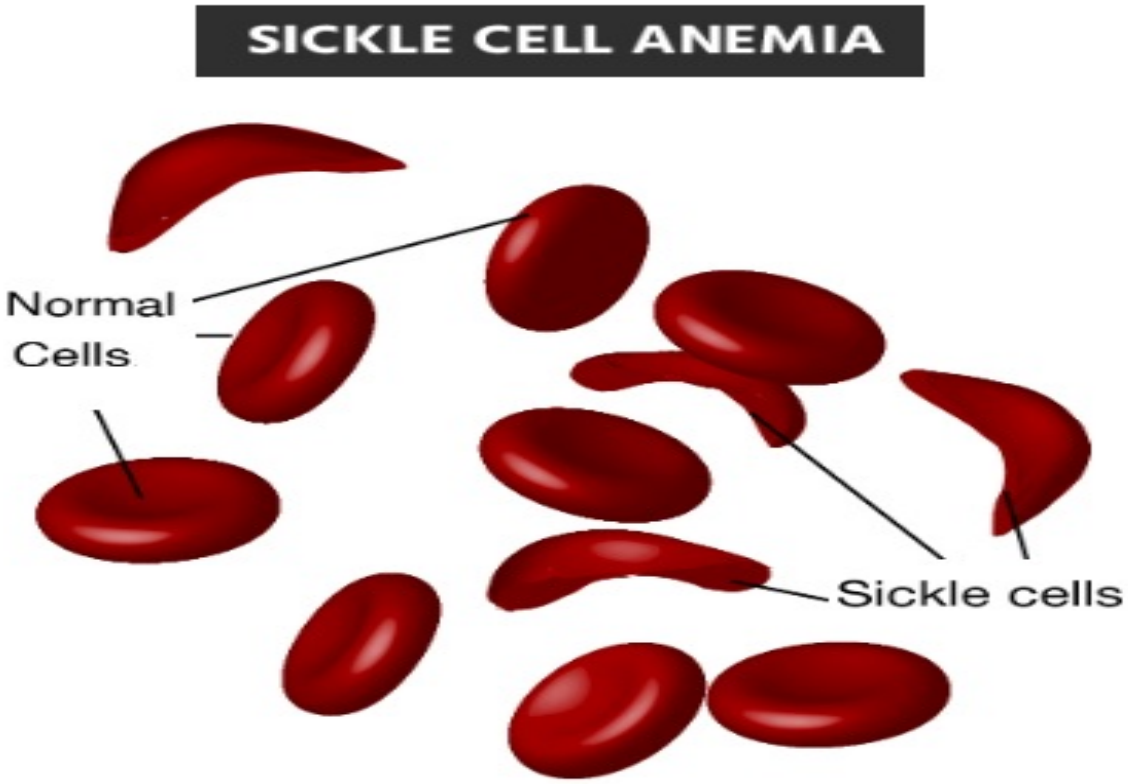
Sickle Cell Anaemia

Why in news?

In budget 2023, Finance Minister Nirmala Sitharaman has said that the government will work in mission mode to eliminate Sickle cell anaemia (SCA) by 2047.

What is sickle cell anaemia?

- **Disease** - Sickle cell disease (SCD) is an inherited group of blood disorders that is genetic in nature.
- It is an autosomal recessive disease or Mendelian disorder.
- **Cause** - It is caused by a *mutation in the hemoglobin-β gene* found on chromosome 11.
- This mutation results in defective haemoglobin (Hb).
- **Characteristics** - After giving up oxygen, these defective Hb molecules cluster together resulting in formation of rod like structures.
- The red blood cells become stiff and assume sickle shape.
- **Transmission -** It is usually transferred from the parents to the child during birth i.e. both parents can be carriers of SCDs.
- **Symptoms -** Babies who are born with sickle cell anaemia might not show symptoms for many months.
- Extreme tiredness, fussiness and painfully swollen hands and feet and jaundice.
- **Effects -** The misshapen cells lack plasticity and can block small blood vessels, impairing blood flow.
- The sickle cells die prematurely, resulting in a chronic lack of red blood cells (anaemia), often called sickle-cell anaemia.
- Chronic acute pain syndromes, severe bacterial infections, and necrosis (tissue death).
- **Treatment -** Medication, blood transfusions and rarely a bone-marrow transplant are done.
- *Bone marrow or stem cell transplantation* which comes with several risks can be a cure.



What steps have been taken to eliminate SCA?

- **Outreach programmes** - The Indian Council of Medical Research (ICMR) and the National Rural Health Mission (NRHM) are undertaking outreach programmes for better management and control of the disease.
- **Portal for data collation** - The Ministry of Tribal Affairs launched a portal wherein people can register themselves if they have the disease, in order to collate all information related to the disease.
- **National Health Mission guideline on Hemoglobinopathies** - It establishes services at the community level for pre-marital and pre-conception screening backed by genetic counselling services.
- **Mission to eliminate SCA** – In the union budget of FY 2023-24, it is announced to launch a mission to *eliminate sickle cell anemia by 2047.*
- The mission entails focus on awareness creation, universal screening of people in the 0-40 years age group in affected tribal areas and counselling.
- The mission will receive funding under the National Health Mission.

References

1. The Hindu |How is India addressing sickle cell anaemia
2. Medicoverhospitals | Sickle cell anaemia



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