Silicosis

Why in News

In India, countless workers engaged in mines, construction and factories are silently dying of exposure to dust. This is better referred to as **silicosis**.

- Silicosis can be described as an **occupational disease or hazard** due to dust exposure. It is incurable and can cause permanent disability.
- However, it is **totally preventable by available control measures and technology**.

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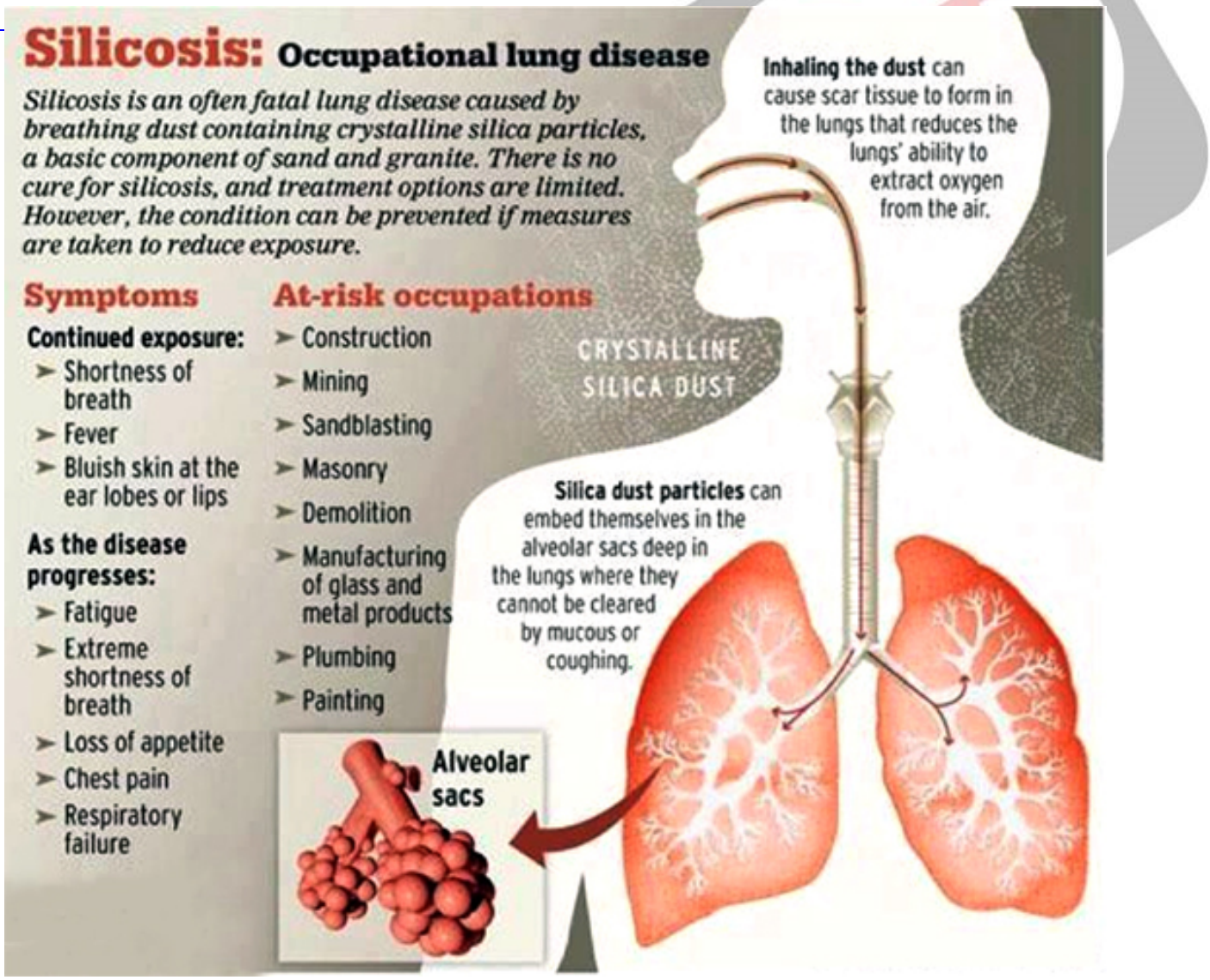

Key Points

- **About Silicosis**
    - Silicosis occurs most commonly in people working in the quarrying, manufacturing, and building construction industries.
        - **Silica (SiO2/silicon dioxide)** is a crystal-like mineral found in abundance in sand, rock, and quartz.
    - It is a **progressive lung disease** caused by the **inhalation of silica over a long period of time**, characterized by shortness of breath, cough, fever and bluish skin.
    - It is one of the **most prevalent occupational health illnesses in the world**. It is also reported from the population with non-occupational exposure to **silica dust** from industrial as well as non-industrial sources.
    - Exposure to large amounts of free silica may not be noticed because silica is **odourless, non-irritant** and does not cause any immediate health effects, but long-term exposure is associated with **pneumoconiosis, lung** cancer, **pulmonary** tuberculosis**, and other lung diseases**.
        - **Pneumoconiosis** is one of a group of interstitial lung diseases caused by breathing in certain kinds of dust particles that damage your lungs.
    - **Diagnosis** is a challenge because it is **difficult** to even find out if a person has **tuberculosis or silicosis**.
    - The nodules that collect to form a mass can take up to 20 years to be identified in chest x-rays and the victim notices symptoms only after many years of exposure to silica.
        - Grossly, silicotic **nodules are firm, discrete, rounded lesions** that contain a variable amount of black pigment.
        - The nodules tend to **occur around respiratory bronchioles** and small pulmonary arteries.
    - In India **silicosis is prevalent in Gujarat, Rajasthan, Pondicherry, Haryana, Uttar Pradesh, Bihar, Chhattisgarh, Jharkhand, Orissa and West Bengal** among the workers of construction and mining.
- **Steps Taken by The Government**
    - **Legal Protections**: Silicosis is a notified disease under the Mines Act (1952) and the Factories Act (1948).
        - **Factory Act of India (1948)** mandates a well-ventilated working environment, provisions for protection from dust, reduction of overcrowding and provision of basic occupational health care.
    - **Silicosis Portal:** A ‘silicosis portal’ was hosted by the Department of Social Justice and Empowerment.
    - **Self-Registration**: A system of worker self-registration, diagnosis through district-level pneumoconiosis boards and compensation from the District Mineral Foundation Trust (DMFT) funds to which mine owners contribute.
    - **Occupational Safety, Health, and Working Condition Code 2020 (OSHWC)**:
        - The code makes it mandatory for all employers to provide annual health checks free of cost as prescribed by the appropriate Government.
- **Associated Challenges**
    - **Low rates of notification**: Low rates of notification of silicosis by the mining sector. Most of the time silicosis is diagnosed as tuberculosis.
    - **Inhuman Cycle**: Present system is designed to consume workers in the mining sector and dispense them with small compensation and replace them with next able workers.
    - **Loopholes in OSHWC Code**: The code places **no obligation on the mine owner** to provide any form of rehabilitation in terms of alternative employment in the mine, or payment of a disability allowance/lump sum compensation for a worker found medically unfit.
    - **Underutilized Funds:** The DMFT funds are both underutilised and spent in an entirely ad

hoc manner.

Way Forward

- **Rajasthan Model**: Rajasthan has one of the top-most shares of over 17% in value of mineral production in the country and a long history of civil society activism.
    - Given this, Rajasthan became the first to notify silicosis as an ‘epidemic’ in 2015.
    - Further, in 2019, it announced a formal Pneumoconiosis Policy, only next to Haryana.
    - This model can be implemented by other mineral producing states also.
- **Proper Implementation of OSHWC**: The State rules under the OSHWC Code must take care to ensure the health checks are provided to all workers in all establishments, irrespective of age.
- **Incentivizing Local Manufacturers**: Local manufacturers must be incentivised to innovate and develop low-cost dust-suppressant and wet-drilling mechanisms that could either be subsidised or provided free of cost to the mine owners.

Source: TH