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Covid Deaths: Developed Versus Developing Countries

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Why in News

As per a new study, **better hygiene and sanitation** in the rich and developed countries could, paradoxically, be **one of the reasons for the high rates of coronavirus-related deaths** lending credence to what is known as the ‘**hygiene hypothesis**’

Key Points

- **The Study:**
 - The study is based on analysis of data until 29th June 2020, by which time more than 5 lakh deaths had been reported with 70% of it in **high-income countries**.
 - It correlated coronavirus deaths in several countries with indicators such as **Gross Domestic Product, population density, human development index rating, demography, sanitation and hygiene, and prevalence of autoimmune diseases**.

- **Findings:**
 - **Case of Developed Countries:**
Among countries with the **highest rates of death per million of population are Belgium, Italy and Spain**, where more than **1,200 have died per million**. The US and the UK have more than 1,000 deaths per million of population.
 - **India Specific Findings:**
In contrast, India has seen just about **110 deaths per million**, less than half the world average of about 233. Most other South Asian countries, as also in rest of Asia and Africa, have **much lower death rates**.
 - **The Paradox:**
The lower-income countries, with **higher population densities and much lower sanitation standards**, seem to have recorded much fewer coronavirus-related deaths compared to richer and more developed countries.
 - **Exceptions:**
Countries such as **Japan, Finland, Norway, Monaco or Australia** have also recorded very low death rates.
 - **Other factors Involved:**
 - Stage of the epidemic,
 - **Lower reporting/testing** in less developed countries that could also affect the mortality numbers.
 - It found that **'hygiene hypothesis'** could be one of the reasons for the same.

Hygiene Hypothesis

- According to the Hygiene hypothesis', people in countries with **low sanitation standards** get exposed to **communicable diseases** at an early age and **develop stronger immunity**, helping them to ward off diseases later in life, a phenomenon called **'immune training'**.
- Conversely, people in richer countries have **better access to healthcare and vaccines**, and things like clean drinking water, due to which they remain safer from such infectious diseases. Paradoxically, this also means that **their immune system remains unexposed to such dangers**.
- This hypothesis is also sometimes used to explain the prevalence of **auto-immune diseases**, in which the immune system sometimes **'overreacts' and starts attacking the body's own cells**, leading to disorders like **type-1 diabetes mellitus** or **multiple sclerosis**.
- However, few suggest that it would be better if the hypothesis were renamed, e.g. as the 'microbial exposure' hypothesis, or 'microbial deprivation' hypothesis. Avoiding the term 'hygiene' would help **focus attention on determining the true impact of microbes**, while **minimizing risks of discouraging good hygiene practice**.

Source: IE