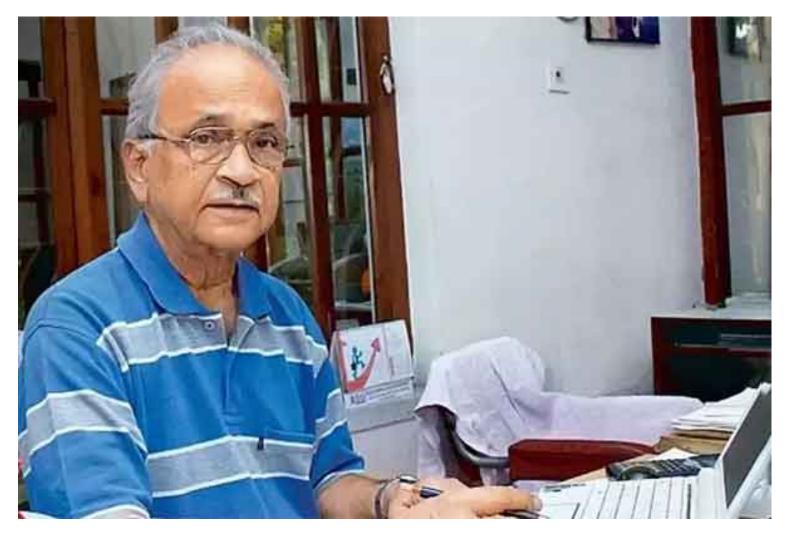
# IT IAS Toppers

## Dr Dilip Mahalanabis, who invented ORS, passes away

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### Dr Dilip Mahalanabis, who invented ORS, passes away

Recently, Dr Dilip Mahalanabis, who pioneered the Oral Rehydration Solution (ORS), passed away.

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[Ref-Abplive]

#### **Dr Mahalanabis**

- He studied in Kolkata and London, and joined the Johns Hopkins University International Centre for Medical Research and Training in Kolkata in the 1960s.
- He was working in **overflowing refugee camps during the 1971** Bangladesh Liberation war when he came up with ORS.
- From 1975 to 1979, he worked in cholera control for WHO in Afghanistan, Egypt and Yemen.
- During the 1980s, he worked as a WHO consultant on research on the management of bacterial diseases.
- In 2002, he along with Dr Nathaniel F Pierce was **awarded the Pollin Prize by Columbia University** (considered the equivalent of Nobel in peadiatrics).
- He knew that a solution of sugar and salt, which would increase water absorption by the body, could save lives.

#### **Oral Rehydration Solution (ORS)**

• Oral rehydration therapy is a treatment for dehydration.

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- It involves drinking a beverage made of water, sugar, and electrolytes, specifically potassium and sodium. The beverage is called an oral rehydration solution (ORS).
- The goal of oral rehydration therapy is to replenish the body's fluid levels.
- It's typically used to treat moderate dehydration due to diarrhea, vomiting, or other conditions.

### How does an oral rehydration solution work for dehydration?

- In general, **mild dehydration** can be treated with fluids like water but for **moderate dehydration**, an ORS is ideal.
- In addition to water, ORS contains specific amounts of glucose and electrolytes such as potassium and sodium.
- These components maximize fluid absorption in the gastrointestinal tract.
  - The gastrointestinal **tract relies on sodium-glucose cotransporters** (SGLTs), which are carrier proteins in the intestinal cells.
  - Cotransporters help move substances across membranes.
- Specifically, **SGLTs pair together sodium and glucose transport in the small intestine**. This allows glucose to increase the absorption of fluids.
- Additionally, **sodium needs glucose in order to be properly absorbed**. This is why ORS contains both glucose and sodium.

### How to administer an oral rehydration solution?

- ORS is a liquid solution. It's designed to be consumed by mouth.
- If a person is unable to drink due to vomiting, nasogastric feeding might be used.
- This delivers the ORS via a **nasogastric tube**, which is **inserted through the nose and into the stomach**.