



# Typbar Typhoid Vaccine

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## Why in News?

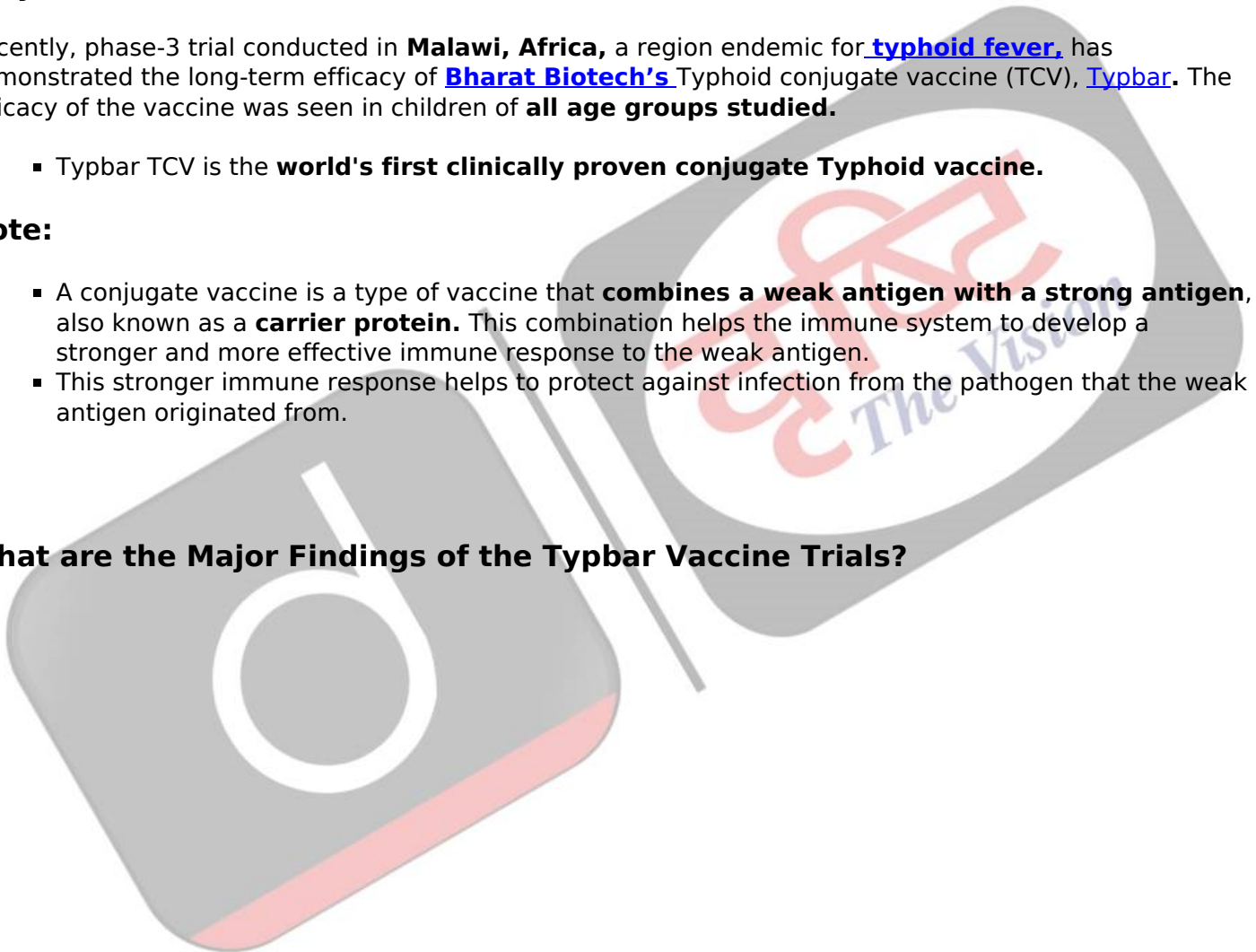
Recently, phase-3 trial conducted in **Malawi, Africa**, a region endemic for [typhoid fever](#), has demonstrated the long-term efficacy of [Bharat Biotech's](#) Typhoid conjugate vaccine (TCV), [Typbar](#). The efficacy of the vaccine was seen in children of **all age groups studied**.

- Typbar TCV is the **world's first clinically proven conjugate Typhoid vaccine**.

## Note:

- A conjugate vaccine is a type of vaccine that **combines a weak antigen with a strong antigen**, also known as a **carrier protein**. This combination helps the immune system to develop a stronger and more effective immune response to the weak antigen.
- This stronger immune response helps to protect against infection from the pathogen that the weak antigen originated from.

## What are the Major Findings of the Typbar Vaccine Trials?



# Protective in children of all age groups under 12 years

The trial was carried out in Malawi, Africa, a typhoid fever-endemic setting, in children aged nine months to 12 years

- Children were vaccinated with a single dose of the vaccine during the period February to September 2018
- 14,069 children received the typhoid vaccine while the remaining 14,061 children received the control vaccine (MenA)
- The efficacy at the end of 4.3 years of median follow-up was 70·6% in children aged nine months to two years
- The efficacy in children aged two-four years was 79·6%, while the efficacy was 79·3% in children aged five-12 years
- The absolute risk reduction was 6·1 typhoid infections per 1,000 vaccinated children
- The estimated reduction in vaccine efficacy over time was only 1·3% per year over four years



**Greenlighted:** Conjugated typhoid vaccine manufactured by Bharat Biotech received WHO prequalification in 2017

## What is Typhoid?

- **About:** Typhoid fever is a life-threatening infection caused by the **bacterium *Salmonella Typhi***. It is usually spread through contaminated food or water.
  - It is transmitted by the **faecal-oral route**, through ingestion of contaminated food or water.
    - Once the bacteria is ingested, it multiplies and spreads into the bloodstream.
  - Urbanisation and climate change have the potential to increase the global burden of typhoid.
- **Symptoms:** It encompasses **fever, fatigue, gastrointestinal problems**, headache, and occasionally a rash.
  - Severe cases can result in complications or death, confirmed through blood testing.
- **Risk Factor and Disease Burden:** In 2019, there were an estimated 9.24 million typhoid cases and 1,10,000 deaths across the world.
  - It remains a significant health issue, particularly in developing regions. The majority of the typhoid cases and deaths in 2019 occurred in **South-East Asia and Africa**.
  - Lack of safe water and sanitation heightens risk, **especially for children**.
- **Treatment: Antibiotics** are the mainstay of treatment, but **increasing resistance to antibiotic treatment** is making it easier for typhoid to spread in communities that lack access to safe drinking water or adequate sanitation.
  - The existence of **resistant strains of bacteria** means antibiotics or drugs designed to kill them no longer work, allowing them to spread rapidly, posing a risk to public health.
- **Prevention:** Prevention strategies include **access to safe water, sanitation, and hygiene**.
  - WHO recommends integrating **typhoid conjugate vaccines** to routine childhood immunisation programmes in typhoid endemic countries.
  - **Gavi** supports vaccine implementation in eligible nations.
    - The **Vaccine Alliance (GAVI)** was set up as a **Global Health Partnership in 2000** with the goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.
    - At the **Global Vaccines Summit** in June 2020, India pledged **USD 15 million** for Gavi's 2021-2025 programme.

## UPSC Civil Services Examination Previous Year's Question (PYQs)

### Prelims:

**Q. Which of the following are the reasons for the occurrence of multi-drug resistance in microbial pathogens in India? (2019)**

1. Genetic predisposition of some people
2. Taking incorrect doses of antibiotics to cure diseases
3. Using antibiotics in livestock farming
4. Multiple chronic diseases in some people

**Select the correct answer using the code given below.**

- (a) 1 and 2  
(b) 2 and 3 only  
(c) 1, 3 and 4  
(d) 2, 3 and 4

**Ans: (b)**

PDF Reference URL: <https://www.drishtiias.com/printpdf/typbar-typhoid-vaccine>

