Parental knowledge assessment regarding Typhoid Conjugate Vaccine (TCV)

A structured questionnaire has been used in this study to assess parental knowledge. Items of knowledge included awareness of the TCV vaccine, the free TCV vaccination campaign, and knowledge regarding vaccine eligibility.

Items of knowledge and scoring

Knowledge responses were scored based on the correctness of the response.

Domain	Item	Response options	Scoring
Awareness of the TCV vaccine	Do you know typhoid could be prevented by vaccination?	☐ 0. No ☐ 1. Yes	If the response is 'Yes', the score is **Yes = 1** And if the response is 'No', then the score is **No = 0**
Free vaccination campaign	Do you know that the government of Bangladesh has provided typhoid vaccination all over Bangladesh?	☐ 0. No ☐ 1. Yes	If the response is 'Yes', the score is **Yes = 1** And if the response is 'No', then the score is **No = 0**
Vaccine eligibility	Do you know which age group of children got the typhoid vaccination?	☐ 1. 0–8 months ☐ 2. 9 months–14 years ☐ 3. More than 14 years ☐ 99. Do not know	If the response is '9 months–14 years,' then the score is **Correct=1** If other responses are selected, then the score is **Incorrect=0**

Knowledge score calculation

The total score was calculated by summing the scores of the responses to the three knowledge items. The total knowledge score ranged from 0 to 3 based on the derived responses, where higher scores indicated better knowledge regarding TCV vaccination. After summing the scores, the percentage of the scores was obtained. Then, based on the distribution of the knowledge scores, participants were categorized into three groups: poor, moderate and good knowledge.

Knowledge score	**Definition**
Poor knowledge	Score < 50
Moderate knowledge	Score 50-75
Good knowledge	Score > 75

Cutoff point estimation:

To determine the optimal cutoff value for the parental knowledge score, receiver operating characteristic (ROC) curve analysis was performed, selecting the point that maximized the Youden Index. The optimal cutoff was identified as 82%, providing the best discrimination between vaccinated and unvaccinated children.