

# Perception of Dengue and Acceptability of Dengue vaccine in University students

Abstract #

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## Background

Dengue is the most prevalent arbovirus at present. Almost half of the global population are at risk of dengue virus infection along with 50-60 million people each year with clinical manifestations. Currently, there is only one licensed dengue vaccine. Several other vaccine candidates are at different stages of clinical development. Acceptability studies of dengue vaccine candidates have been carried out in health care professionals, key opinion leaders, and parents. Universities are key settings for health promotion, so understanding factors that influence the practice of dengue prevention within a university community becomes vital. Moreover, university students, being part of the young population, are the next generation decision-makers, future parents and composes a huge part of the society. Furthermore, dengue virus vectors being day-biter mosquitoes, students, in general, are more susceptible to dengue infection by commuting and being in educational institutions during the day. Although there are few studies on dengue vaccine acceptance in university students in certain countries, in multi-country settings is scarce. The objective of this study was to understand the level of awareness about dengue disease and dengue vaccines in university students of science, commerce, and humanities worldwide.

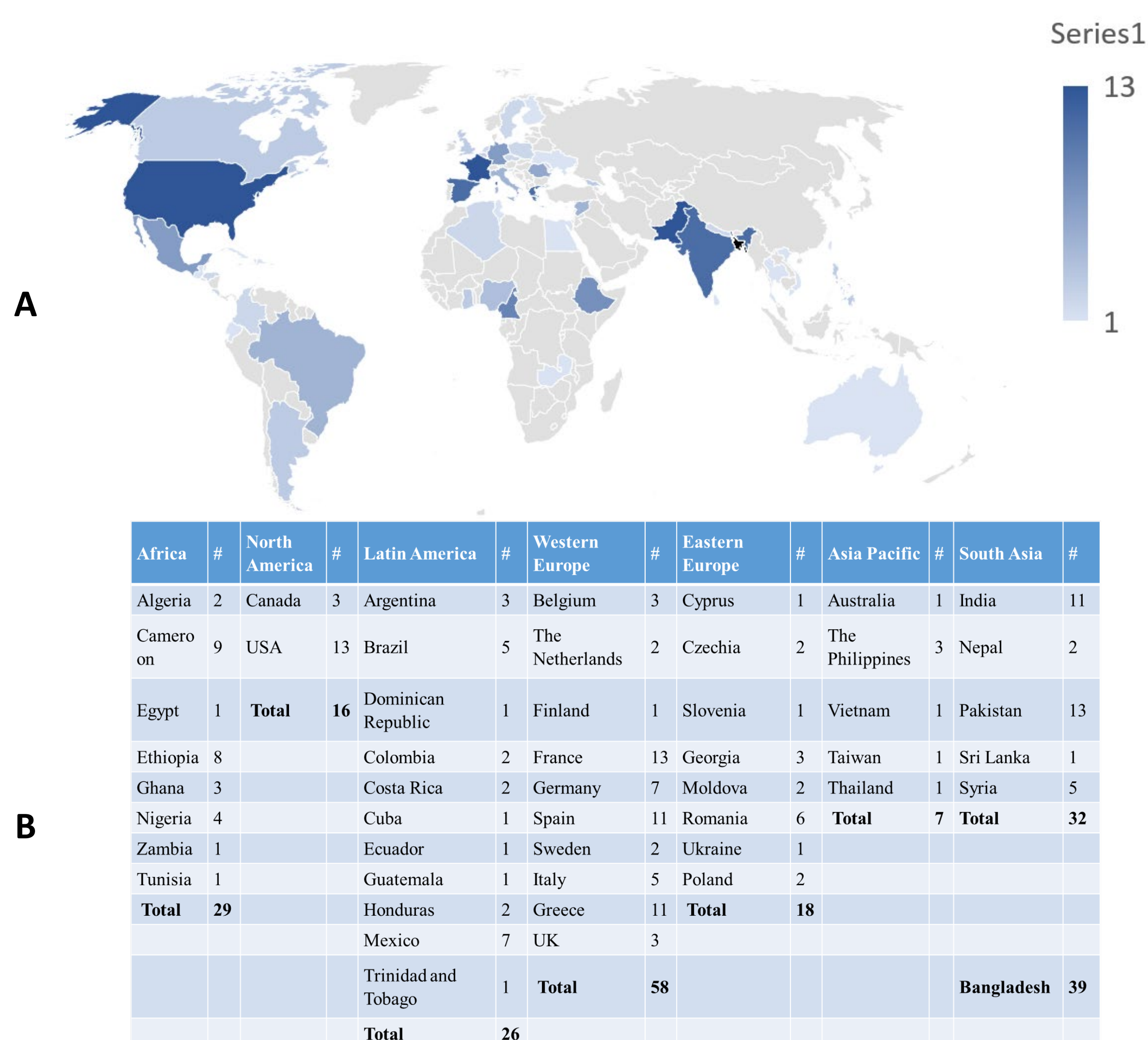
## Objectives

- Understand the knowledge of dengue fever, as a disease and its burden, in the targeted study population, that is university students, around the world, grouped by regions of different endemicity levels
- Overview of the perception of dengue vaccines and vaccine acceptance in university students in different geographical clusters
- Ascertain potential reasons behind vaccine hesitancy

## Methodology

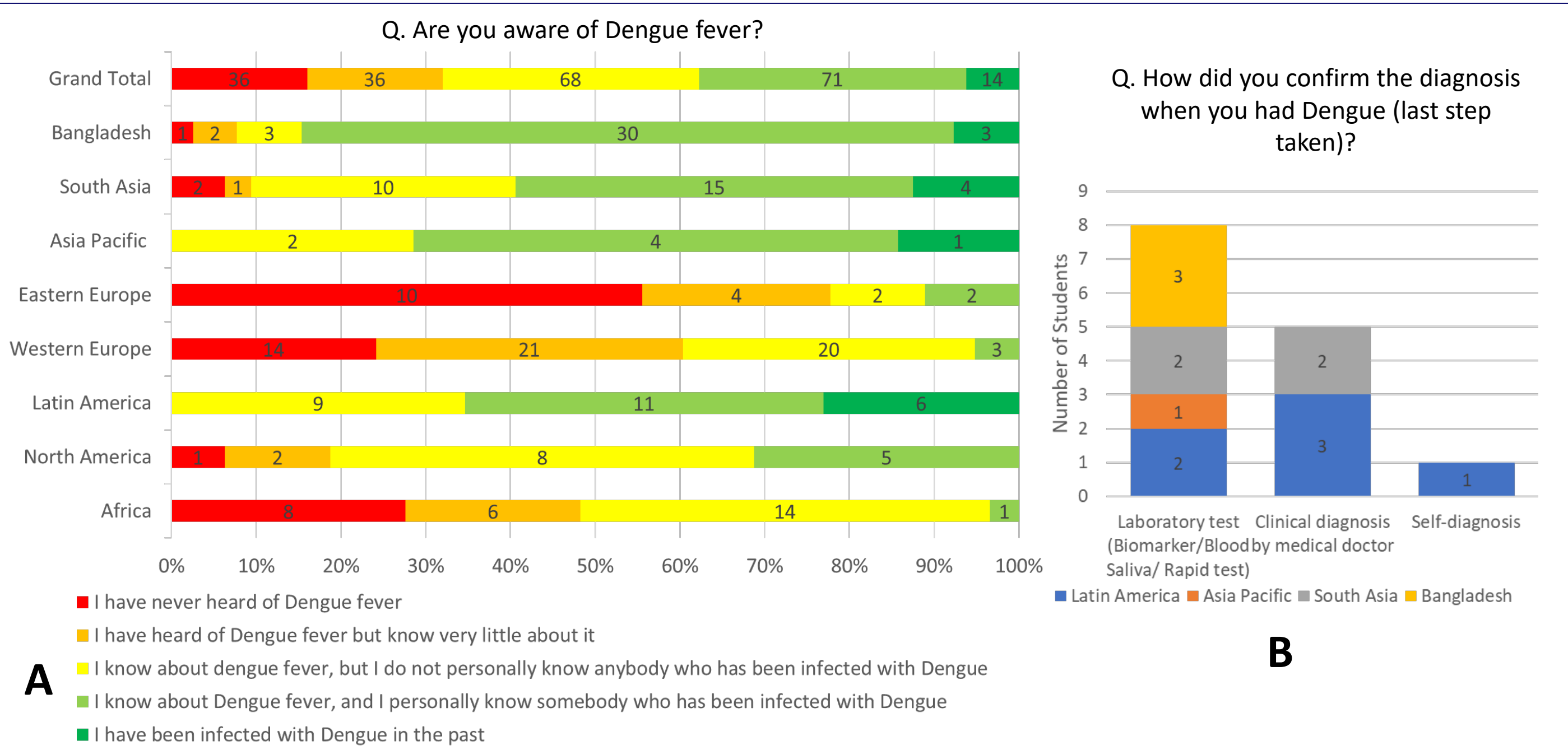
- Study Population:** University Students
- Study Setting:** Cross country, Multicenter
- Study Period:** 6 weeks (7<sup>th</sup> March-18<sup>th</sup> April 2022)
- Study Tool:** Cross-sectional Online Survey with structured Questionnaire
- Data Collection:** Social media platforms- Facebook, WhatsApp, LinkedIn, Twitter and Instagram
- Data analysis and Figure generation:** Microsoft Excel, Microsoft PowerPoint, and GraphPad Prism 9

## Results(1): Demographic Data



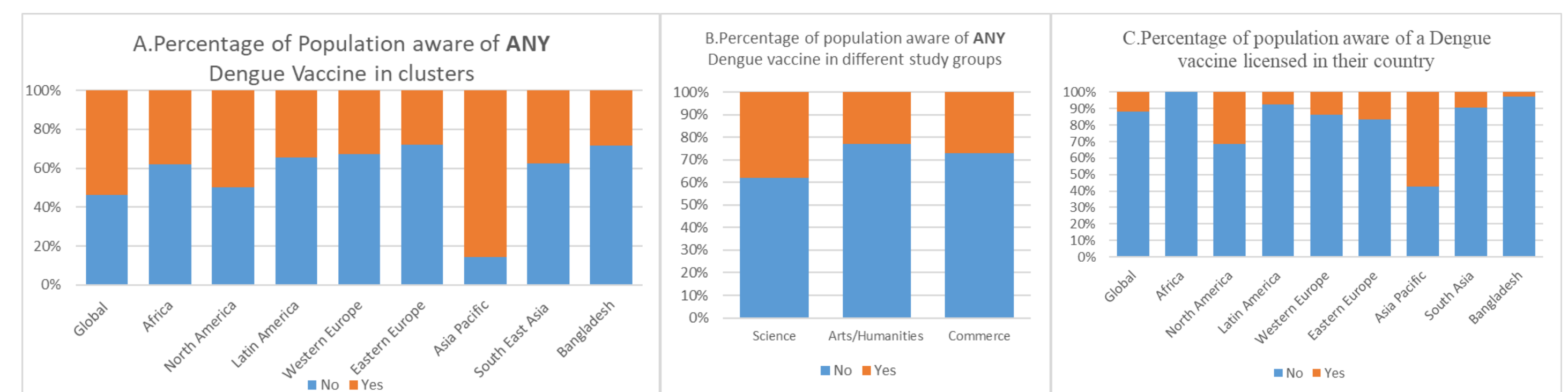
**Figure 1: A.** World map demonstrating the number of respondents from each country. 225 students from 50 countries responded to the survey. Bangladesh (n=39) is a black country since the highest number of responders were from this country. **B.** Cluster breakdown: This table shows the countries comprising each cluster and their sample size. **C.** Average age of the respondents in the global level and different clusters with standard deviation.

## Results(2): Awareness of Dengue



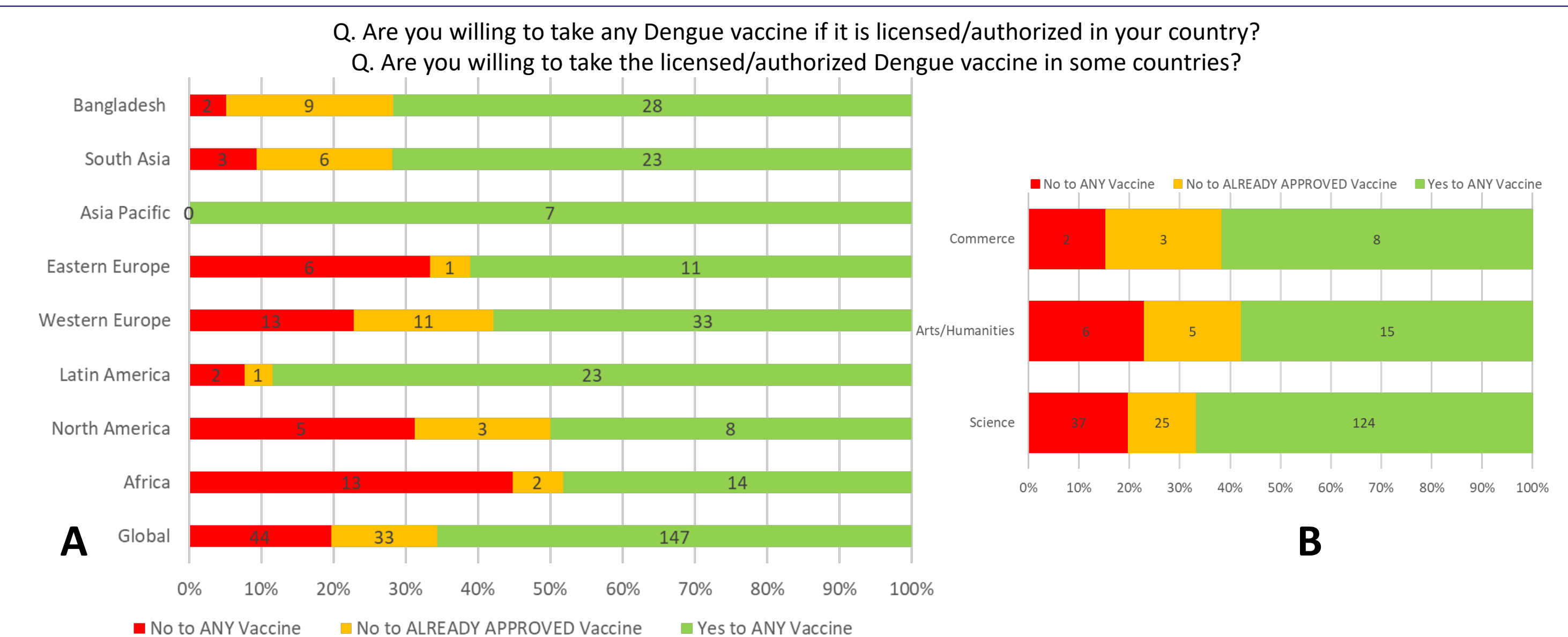
**Figure 2: A.** Percentage of target population globally and in clusters with the knowledge of dengue. **B.** Number of respondents in each step to confirm their diagnosis of dengue infection. \*Number inside bars=actual number of respondents.

## Results(3): Awareness of Dengue Vaccine



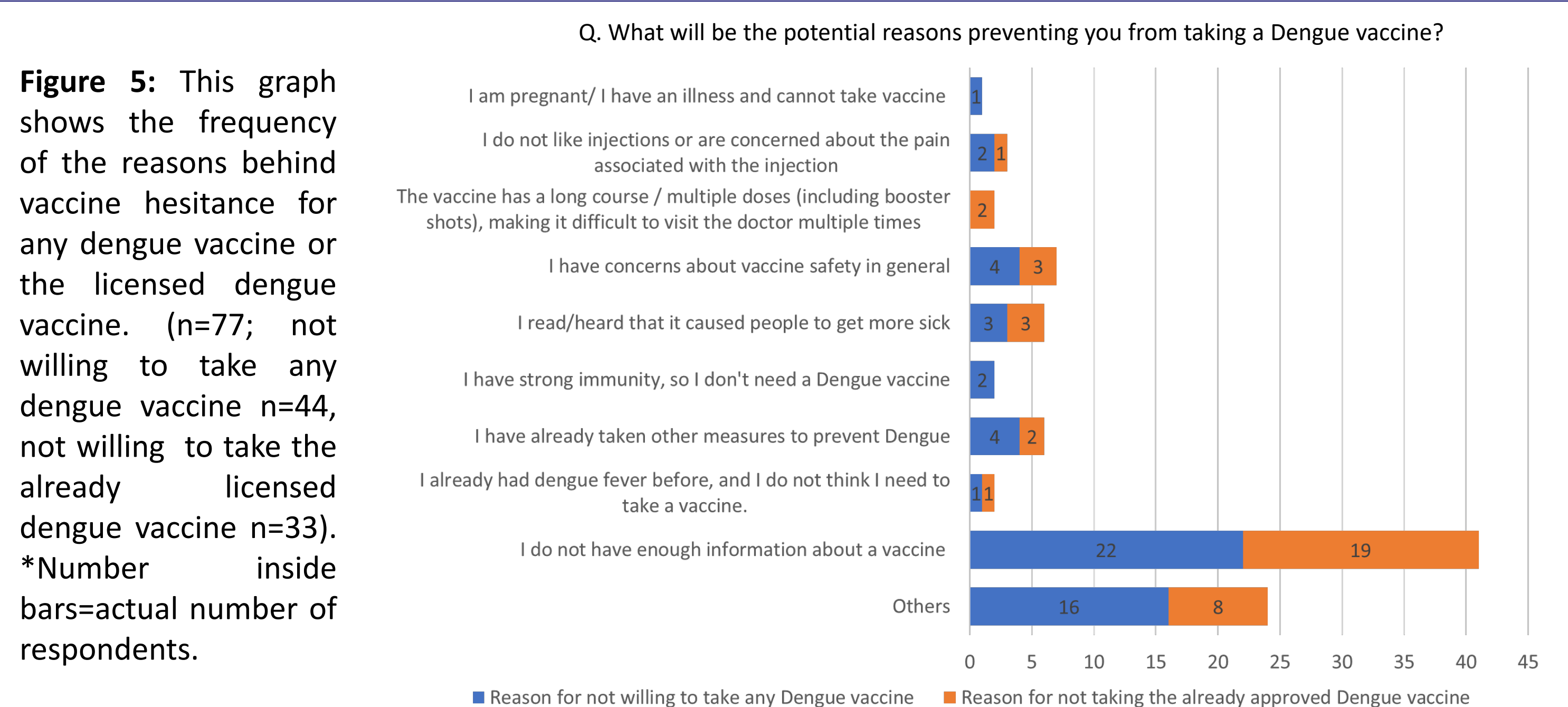
**Figure 3:** Percentage of the population aware of any dengue vaccines A. in Global and different clusters B. in different study groups C. in Global and different clusters about a dengue vaccine licensed in their country.

## Results(4): Dengue Vaccine Acceptance



**Figure 4: A.** Overall global vaccine acceptance vs in specific clusters of currently approved dengue vaccine or any future dengue vaccines. 80% of the respondents were willing to take any dengue vaccine. **B.** Vaccine acceptance of currently approved dengue vaccine or any future dengue vaccines in groups of students from different backgrounds of study. \*Number inside bars=actual number of respondents.

## Results(5): Reported reasons behind Dengue vaccine hesitancy



**Figure 5:** This graph shows the frequency of the reasons behind vaccine hesitancy for any dengue vaccine or the licensed dengue vaccine. (n=77; not willing to take any dengue vaccine n=44, not willing to take the already licensed dengue vaccine n=33). \*Number inside bars=actual number of respondents.

## Conclusions

- Although several studies of knowledge, attitude and perception of dengue have been conducted in student population, dengue vaccine acceptance studies are scarce. Future studies are required to address the knowledge gap. Even though 80% of the study population are willing to take any future or already approved dengue vaccine, there were no major differences related to the areas of study of students.
- The key reason of vaccine reluctance in the 20% of respondents is lack of adequate information about dengue vaccine. Education campaigns could be designed to enhance awareness of dengue disease and the importance of dengue vaccines in this population.