



# Application of a new portable nephelometer for screening thalassemia in countries with limited resources

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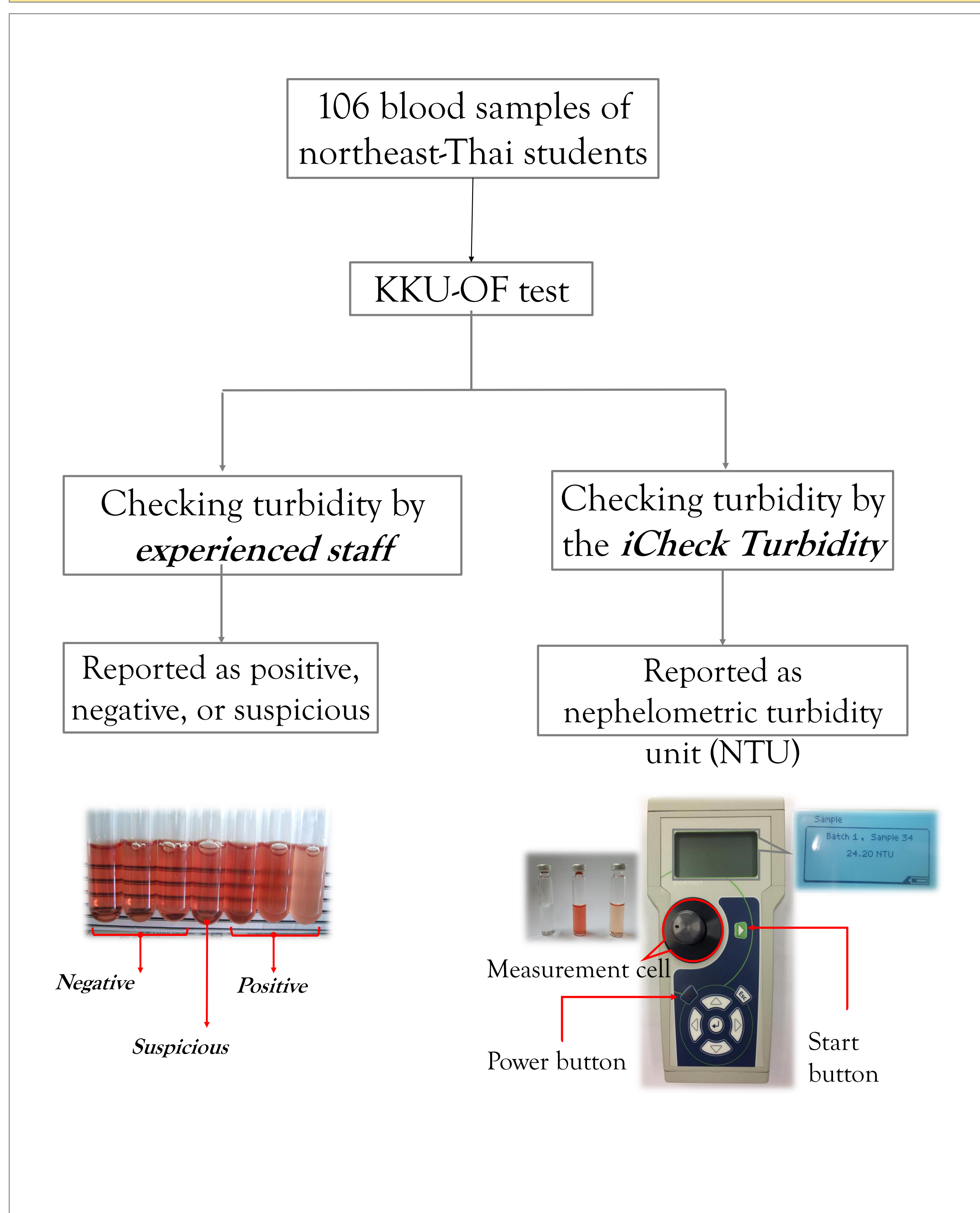
## Background:

One-tube osmotic fragility (OF) test is a rapid test used widely for screening thalassemia in countries with limited resources. The test has important limitation in that its accuracy relies on observers' experience.

The iCheck Turbidity is a prototype of portable nephelometer developed by BioAnalyt (Bioanalyt GmbH, Germany).

In this study, we assessed the applicability of the iCheck Turbidity, for checking turbidity of the OF-test.

## Methods

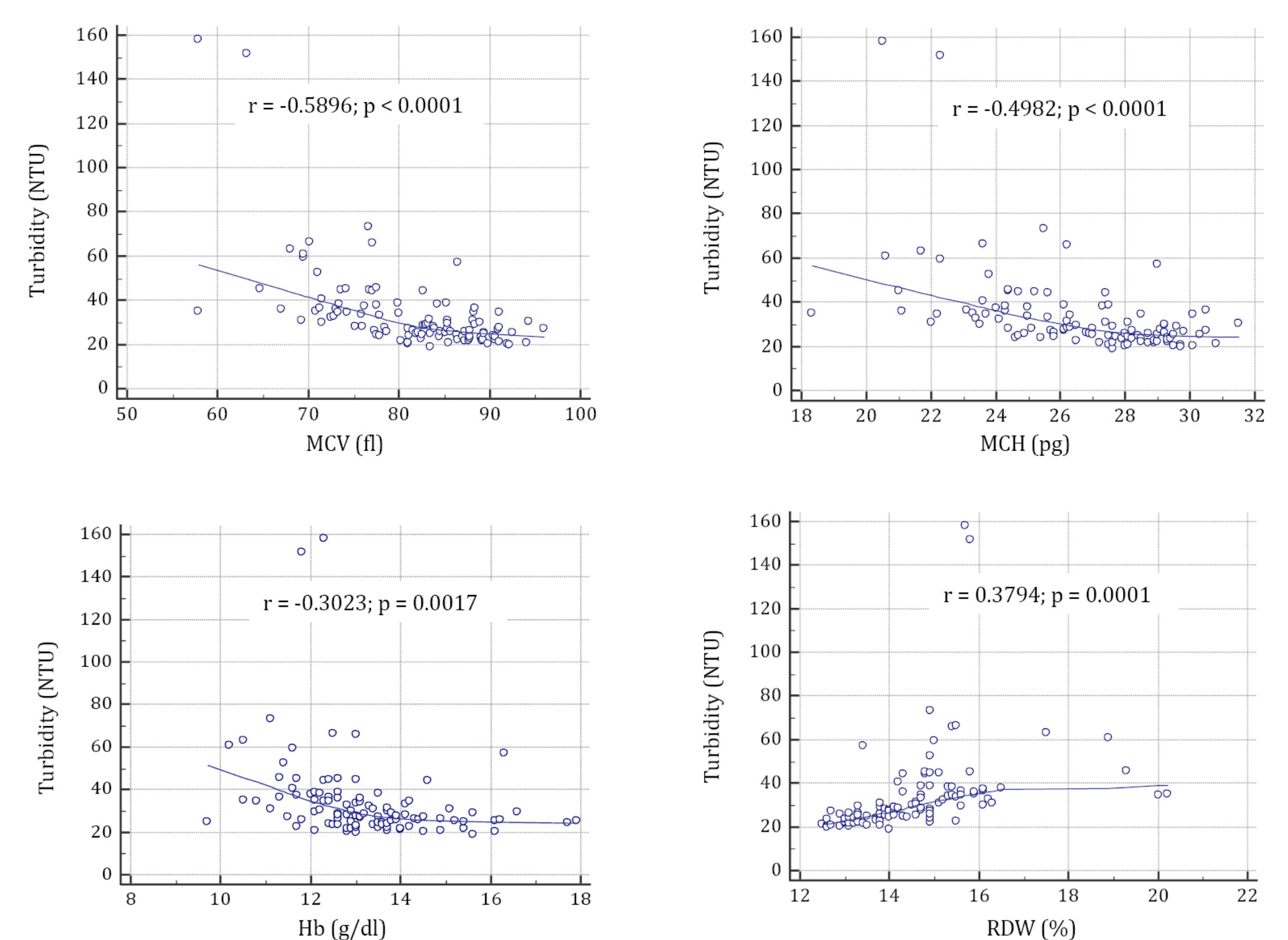


## Results

### 1. Results of turbidity measured by the iCheck; data presented as median (interquartile range)

Naked-eye	n	Turbidity (NTU)
Positive	40	36.9 (33.7-45.4)
Negative	53	24.6 (21.9-26.7)
Suspicious	13	29.2 (28.1-35.1)

### 2. Correlation between RBC indices and turbidity values



## Conclusions:

- The 'iCheck Turbidity' might be applicable for screening thalassemia in countries with limited resources.
- This portable device is easy to use and helpful as it could eliminate an error in reporting turbidity by naked-eye.
- However, the establishment of cutoff value and validation with a larger sample size are needed to warrant its applicability.

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