Evaluation of an IMCI Tablet App in Classroom and Clinical Settings

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Background

The Center for Innovation in Global Health Technologies (CIGHT) at Northwestern University has recently designed an Integrated Management of Childhood Illness (IMCI) application on android tablets. The IMCI is a clinical protocol established for health care providers to improve the quality of child care in resource-limited settings. This new app not only walks the healthcare worker through the entire IMCI but it also provides auditory and visual resources to help them conduct effective patient exams.

Primary Objectives:
1. Assess the usability of the IMCI tablet app for healthcare workers with different levels of IMCI training.
2. Determine the app’s effect on reducing the service delivery time at a busy community.

Methods

Classroom Setting: 36 volunteer nurses were trained at the Red Cross War Memorial Children’s Hospital in Cape Town, South Africa. Half of the nurses were asked to test the IMCI tablet app in several hypothetical clinical cases, and the other half attempted the same cases with the IMCI paper chart. The two groups then switched IMCI devices to attempt a second set of clinical cases for another comparison.

Clinic Setting: Three IMCI-experienced nurses were observed at a community health clinic located 30 minutes away from Cape Town. Nurses were observed treating patients with the IMCI paper chart for two days followed by them working with the tablet app for another two days. 87 patients were seen using the paper chart, and 57 patients were examined using the app.

Results

Classroom setting:
- The consensus was that the app was easier and faster to use, especially with the instructional videos demonstrating how to look for danger signs, and the automatic display of disease classifications and treatment options based on input.
- All the nurses would also like to see our app being incorporated into future IMCI training courses.

Clinical setting:
- Average service delivery time with the tablet app was 3.2 minutes longer than with the paper chart. (Figure 5)
- All 3 nurses stated that they preferred using the app despite the longer service delivery time.
- Most favorable aspect: reduce writing and paperwork.

Conclusions

- We found that our app is very easy to use and suitable for both IMCI training and clinical practice. The user feedbacks gained from this study are currently being incorporated into developing a better design for our app’s next version.

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