

## TITLE

# Technology and health: Evaluating the Internet as a source of health information for mothers in rural Indonesia

## AUTHORS

Dr. Josh West, PhD MPH , [josh.west@byu.edu](mailto:josh.west@byu.edu) Associate Professor, Brigham Young University, USA; Dr. Ahmad Syafiq, [asq69@yahoo.co.uk](mailto:asq69@yahoo.co.uk), Professor, University of Indonesia, Indonesia; Mr. Iwan Hasan, [iwanhasan@imaworldhealth.org](mailto:iwanhasan@imaworldhealth.org), Country Director, IMA World Health, Indonesia; Mr. Scott Torres, [scotttorres@imaworldhealth.org](mailto:scotttorres@imaworldhealth.org), Senior Program Officer, IMA World Health, USA; Ms. Mary Linehan, [marylinehan@imaworldhealth.org](mailto:marylinehan@imaworldhealth.org), Senior Technical Director, IMA World Health, USA  
Dr. Cudjoe Bennett, [cudjoebennett@imaworldhealth.org](mailto:cudjoebennett@imaworldhealth.org), Director of Monitoring and Evaluation, IMA World Health, USA  
Dr. Kirk Dearden, [kirkdearden@imaworldhealth.org](mailto:kirkdearden@imaworldhealth.org), Senior Advisor for Research and Quality Assurance, IMA World Health, Tanzania; Dr. Benjamin Crookston, [Benjamin.crookston@gmail.com](mailto:Benjamin.crookston@gmail.com), Associate Professor, Brigham Young University, USA; Dr. Cougar Hall, [coughall@gmail.com](mailto:coughall@gmail.com), Associate Professor, Brigham Young University, USA

## ABSTRACT

**Background:** Stunting in young children continues to be a major concern in developing country settings, including middle income countries like Indonesia. The deleterious effects of stunting include negative health outcomes, lower cognitive functioning, and diminished productivity in adulthood. Early intervention is critical to prevent stunting. Mothers and other care-givers may benefit from knowledge and information related to stunting causes and effects. Indonesia has readily adopted Internet-based technologies, many of which are now being used to disseminate health information. **Objectives:** The purpose of this study was to compare mothers' stunting knowledge acquired through potential information sources and to explore factors associated with using the Internet to acquire stunting-related information. Results from this study could inform health communication efforts to achieve sustained changes in mothers' caretaking behaviors. **Method:** Research associates conducted a 1-hour, in-home interview with 754 mothers to estimate their stunting knowledge. Measured sources of health information in this study included posyandu (community health posts), puskesmas (public health centers), midwives, hospitals, recitation, and the Internet. A single variable was constructed to represent a global estimation of mothers' knowledge of stunting causes and effects. Anova test statistics were used to compare mothers' knowledge across the various health information sources. Multivariate logistic regression was used to identify factors associated with mothers' reported use of the Internet to acquire information about stunting. **Results:** The average age of participating mothers was just under 28 years and almost 20% used the Internet to get stunting information. Mothers that used the Internet reported significantly higher stunting knowledge, compared to non-Internet users. Factors that were significantly related to using the Internet to get stunting information included increased education level, accessing information during the 1st trimester, greater monthly expenditures, and not accessing posyandu for stunting

information.

**Discussion:** As Internet use becomes ubiquitous in Indonesia, it is promising that mothers in this study, all from rural districts, reported higher knowledge levels after using the Internet to access information. This is among the most cost-effective strategies for disseminating health information, especially outside of urban centers. Results from this study may help to identify characteristics of other Indonesian mothers that could benefit from acquiring stunting information in this low-cost format. Indeed, educated mothers proactively that proactively seek out information early in pregnancy may be targeted for disseminating information online. Moreover, the Internet may be used to improve outcomes for children of mothers that do not access information through more traditional means, including puskesmas.