Assessment of a Zinc Promotion Program in Nepal: Implications for Introducing Zinc Treatment in Developing Countries

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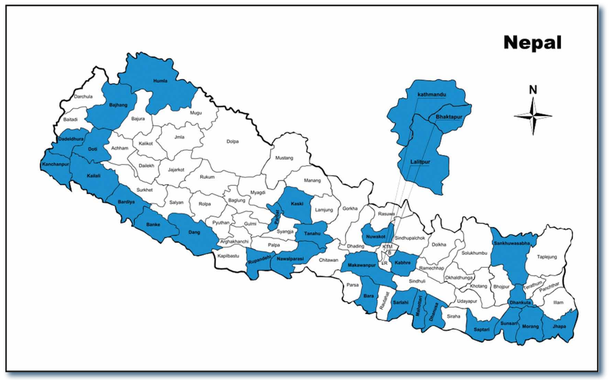
Background

- Global burden of childhood diarrhea
  - Diarrhea remains the second leading cause of death in children under five (2.5 billion cases of diarrhea and 1.5 million deaths per year)
  - More than half of cases are in Africa and South Asia
- Diarrhea prevention and treatment
  - Clinical trials showed using zinc along with Oral Rehydration Salts (ORS) reduced duration and severity of childhood diarrhea
  - In 2004, WHO/UNICEF recommend using zinc and ORS together as an effective treatment for diarrhea in developing countries
- Childhood diarrhea and treatment in Nepal
  - Major cause of childhood morbidity and mortality (prevalence 12% of children under five years and more than 20% of children under 1 year)
  - 66% cases are treated of which 61% ORS/ORT; 68% pills/Syrups; 0.4% zinc (DHS, 2006)
- USAID/Nepal funded the Point-of-Use Water Disinfection and Zinc Treatment (POUZN) project to address diarrhea treatment trhough private sector channels

Program Objectives and Areas of Focus

- Sustained provision and use of pediatric Zinc in addition to ORS/ORT for 10 days as the first line treatment for uncomplicated diarrhea for children under 5
  - Supported local manufacturers to produce and market zinc products to establish a sustainable commercial supply of zinc tablets
  - Implemented a behavior change communication campaign to create awareness of and demand for zinc products to ensure caregivers have appropriate knowledge and practice with zinc treatment
  - Educated and trained providers to improve their knowledge of appropriate diarrhea case management

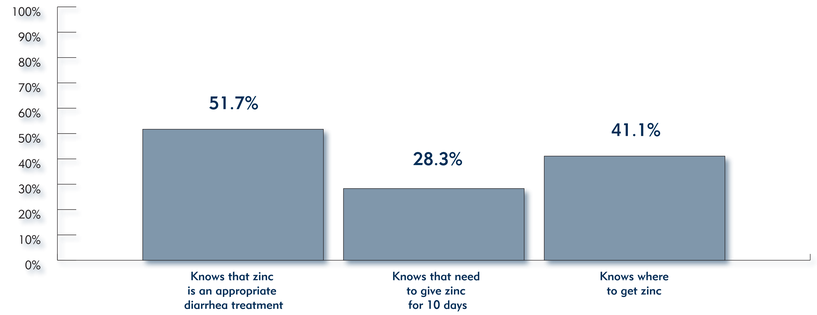
Project Districts (approx. 50% of the ppopulation)



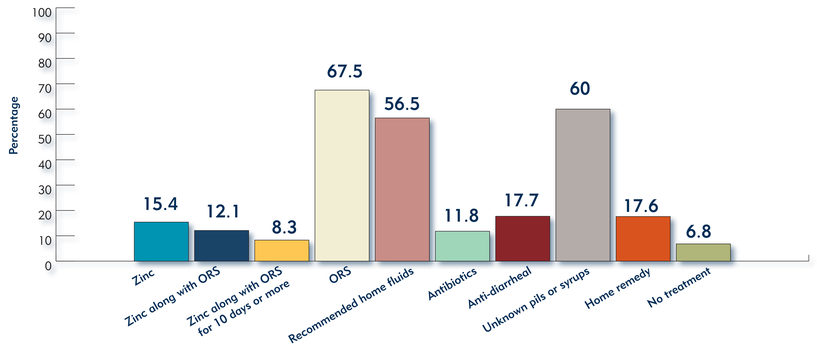
Program Evaluation

- A population-based household survey was conducted in August 2008, covering 26 program districts
- 3550 households were selected through a multi-stage probability sampling approach. The caregiver of the children under five in each household was interviewed.
- Structured interviews collected information on household, children's diarrhea history, diarrhea treatment with zinc and other therapies, knowledge and attitudes about diarrhea and various treatments as well as the communication message exposure.

Program Results: Knowledge on Zinc Treatment and Source



Diarrhea Treatment Practices



Note: Total exceed 100% because respondents were allowed to state multiple treatments

Acknowledgements

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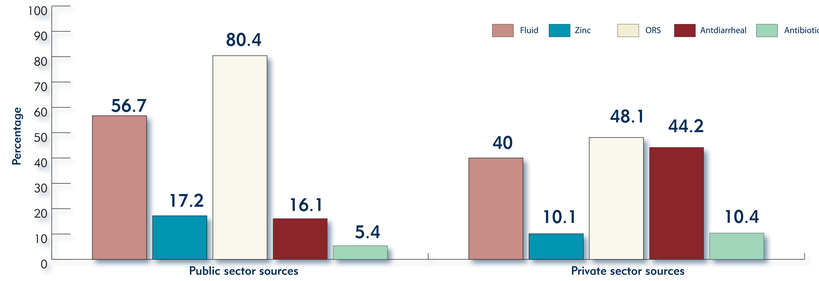
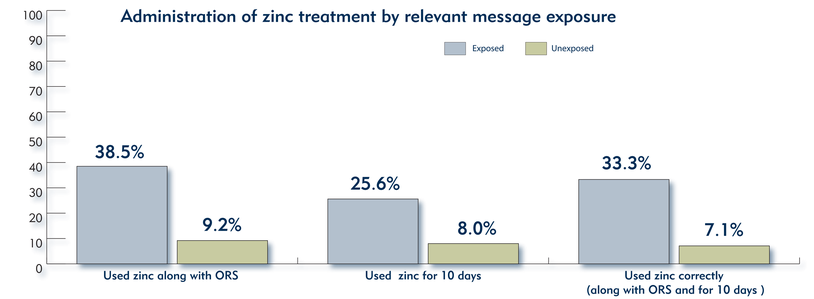
Treatment/Advice Received by Source of Care



Impact of Behavior Change Communication on Use



Predictors of Zinc Use

Predictors	Use zinc (Odds Ratios)
Caregiver obtained education higher than secondary level (reference: no education)[1]	1.76**
Live in richest household (reference: poorest quintile)[1]	5.76**
Caregiver exposed to relevant mass media message about zinc (reference: unexposed)[2]	2.13**
Caregiver agreed that zinc is an effective treatment for diarrhea (reference: disagree)	1.92*
Caregiver perceived zinc is easy to obtain	2.10**
Total number of children with diarrhea	289

[1]Other educational and wealth groups were not shown as not statistically significant
[2]Zinc use message refers to any zinc-related message recalled
Statistical significance: **p<0.01 *p<0.05

Conclusions and Implications

- Zinc promotion through mass media is essential to increasing knowledge and use
- Knowledge (0 to 52%) and use (0.4% to 15.4%) of zinc can change in a short period of time
- Changing provider behavior remains an ongoing challenge. Continuing effort needs to be invested in discouraging inappropriate treatments
- The introduction of zinc did not have an adverse effect on the use of oral rehydration solution (ORS)or other rehydration therapies
- Zinc coverage favored higher income, more educated households indicating that greater attention needs to be paid to promoting use among poorer, less educated populations

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