

## NEWBORN UMBILICAL CORD CARE IN HAITI: A COMMUNITY CAMPAIGN

Susan Walsh, DNP, C-PNP; Leslie Cordes, MD

Kathleen Norr, PhD; Girija Sankar, MA, MS; Heather Sipsma, PhD

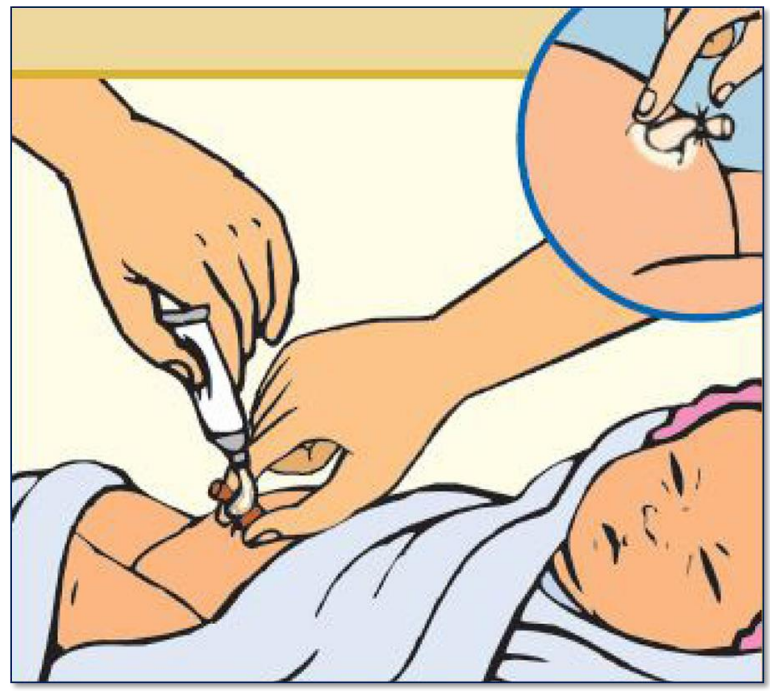
### INTRODUCTION

#### Reduce Under-5 Child Mortality

- Sepsis in top 3 leading causes of neonatal death
- Umbilical cord infection can lead to sepsis

#### Haiti: Poorest country in Western hemisphere

- Neonatal mortality rate 25.5/1000 live births
- 6% newborn deaths caused by sepsis
- 63% deliveries occur at home



#### Chlorhexidine application to cord stump

- Known safety profile (delivering 4% chlorhexidine)
- World Health Organization recommended intervention
- Decreases cord infections and neonatal mortality in low resource settings with home delivery



### PURPOSE

#### Reduce sepsis from umbilical cord infection among neonates born in Haiti

- Develop/test a community campaign that promotes newborn cord care based on World Health Organization recommendations

### RESULTS

Table 1. Sample demographics (N=200)<sup>1</sup>

|                              | N   | %    |
|------------------------------|-----|------|
| Age of mother                |     |      |
| < 20                         | 23  | 11.6 |
| 20-29                        | 130 | 65.3 |
| ≥ 30                         | 46  | 23.1 |
| Parity                       |     |      |
| Primiparas                   | 29  | 14.5 |
| Multiparas: 2-3 births       | 131 | 65.5 |
| Multiparas: 4 or more births | 40  | 20.0 |
| Potentially unhygienic home  | 154 | 78.2 |
| Religion <sup>2</sup>        |     |      |
| Catholic                     | 110 | 56.7 |
| Protestant                   | 67  | 34.5 |
| Voodoo                       | 10  | 5.2  |
| Other                        | 5   | 2.6  |

<sup>1</sup>Missing values for each item range from 0 to 6.

<sup>2</sup>Respondents were instructed to select all that apply.

Table 3. Experiences with cord care (N=200)<sup>1</sup>

|                                                                | N (%)    | %    |
|----------------------------------------------------------------|----------|------|
| Substances applied to newborn cord (N=121) <sup>2</sup>        |          |      |
| Covering or Binding                                            | 87       | 71.9 |
| Unhygienic substance <sup>3</sup>                              | 11       | 9.1  |
| Symptoms observed in baby <sup>2</sup>                         |          |      |
| Red cord                                                       | 9 (4.6)  |      |
| Swollen                                                        | 2 (1.0)  |      |
| Pus                                                            | 10 (5.2) |      |
| Fever                                                          | 1 (0.5)  |      |
| Poor eating                                                    | 0        |      |
| Irritability                                                   | 7 (3.6)  |      |
| Any of these <sup>4</sup>                                      | 18 (9.3) |      |
| When you noticed these things, what did you do? <sup>2,5</sup> |          |      |
| Contacted nurse/doctor/hospital                                | 9        | 50.0 |
| Contacted TBA/ CHW/hoogan                                      | 3        | 16.7 |
| Did nothing                                                    | 8        | 44.4 |

<sup>1</sup>Numbers of missing responses per item range from 1 to 7 unless otherwise noted.

<sup>2</sup>Select all that apply.

<sup>3</sup>Includes powder, dirt, dung or water.

<sup>4</sup>Excludes irritability.

<sup>5</sup>Among those who reported the baby having any symptoms (n=18).

### CONCLUSIONS

- Results demonstrate high level of acceptability for chlorhexidine use
- Message reached nearly all mothers
- Vast majority adhered to recommended application practices
- Using TBAs to implement campaign was successful
- Campaign was less successful in limiting use of coverings; no indication of negative impact on infant

### METHODS

#### Design

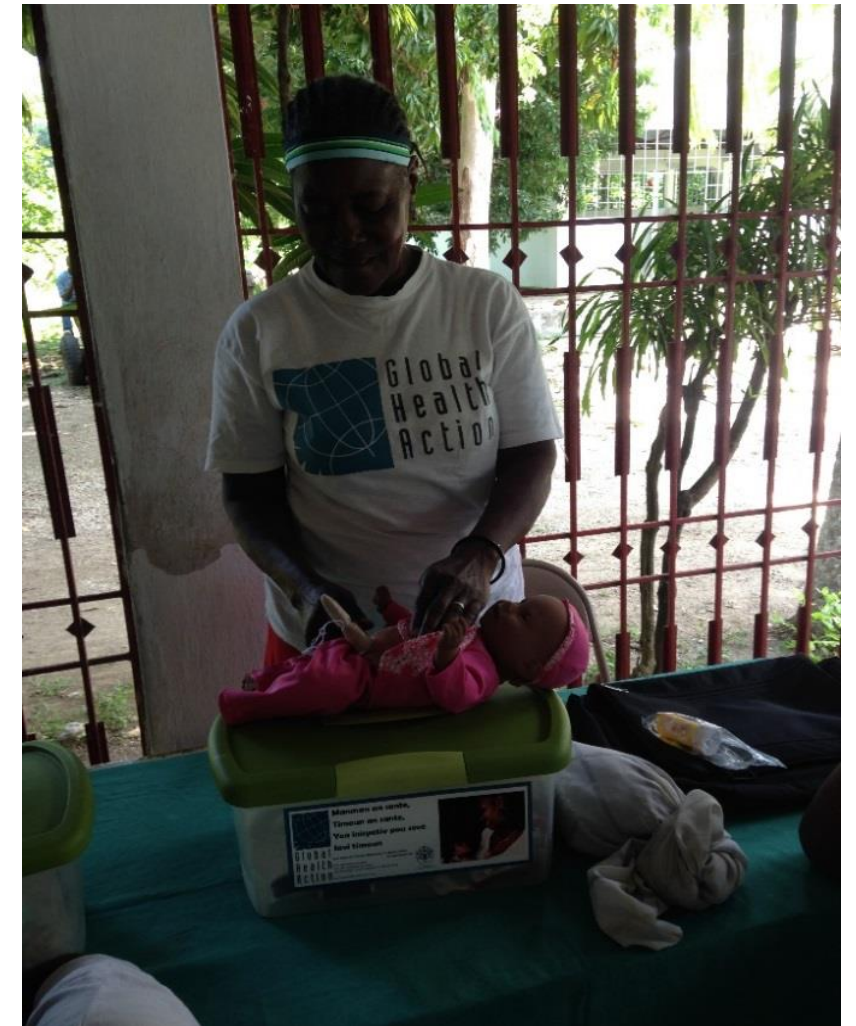
- Cohort of first 200 women delivered by traditional birth attendants (TBAs) after campaign began

#### Participants

- Women in the community at least 18 years of age with a healthy baby 1-4 weeks old born at home



- Questionnaire administered by CHWs at postnatal visit in the mother's home



#### Data analysis

- Descriptive statistics, unadjusted and adjusted statistics to determine differences in mothers' cord care practices

Table 2. Use of chlorhexidine (N=199)<sup>1</sup>

|                                                                                                       | N   | %    |
|-------------------------------------------------------------------------------------------------------|-----|------|
| Told about applying chlorhexidine to baby's cord                                                      |     |      |
| Yes                                                                                                   | 196 | 98.5 |
| No                                                                                                    | 3   | 1.5  |
| Persons who advised about chlorhexidine use <sup>2,3</sup>                                            |     |      |
| TBA                                                                                                   | 190 | 98.4 |
| CHW                                                                                                   | 16  | 8.3  |
| Doctor/Nurse                                                                                          | 1   | 0.5  |
| Other                                                                                                 | 1   | 0.5  |
| Used chlorhexidine                                                                                    |     |      |
| Yes                                                                                                   | 193 | 97.0 |
| No                                                                                                    | 6   | 3.0  |
| Number of days applied chlorhexidine <sup>4</sup>                                                     |     |      |
| 1                                                                                                     | 0   | 0    |
| 2                                                                                                     | 4   | 2.2  |
| 3                                                                                                     | 17  | 9.2  |
| 4                                                                                                     | 20  | 10.9 |
| 5                                                                                                     | 30  | 16.3 |
| 6                                                                                                     | 15  | 8.2  |
| 7                                                                                                     | 98  | 53.3 |
| Adhered to instructions (applied chlorhexidine for 7 days or until baby's cord fell off) <sup>6</sup> | 166 | 88.3 |
| Reasons for not applying chlorhexidine for all 7 days <sup>2,5</sup>                                  |     |      |
| Baby's cord fell off                                                                                  | 68  | 81.0 |
| Forgot                                                                                                | 1   | 1.2  |
| Other                                                                                                 | 0   | 0    |
| Ease of chlorhexidine use                                                                             |     |      |
| Easy                                                                                                  | 181 | 94.3 |
| Not too hard                                                                                          | 11  | 5.7  |
| Difficult                                                                                             | 0   | 0    |
| Baby's cord has fallen off (at home visit 7-10 post-birth)                                            |     |      |
| Yes                                                                                                   | 183 | 92.0 |
| No                                                                                                    | 16  | 8.0  |
| Day baby's cord fell off <sup>5</sup>                                                                 |     |      |
| 1                                                                                                     | 4   | 2.5  |
| 2                                                                                                     | 3   | 1.9  |
| 3                                                                                                     | 22  | 13.7 |
| 4                                                                                                     | 23  | 14.3 |
| 5                                                                                                     | 37  | 23.0 |
| 6                                                                                                     | 34  | 21.1 |
| 7                                                                                                     | 33  | 20.5 |
| 8                                                                                                     | 4   | 2.5  |
| 9                                                                                                     | 0   | 0    |
| 10                                                                                                    | 1   | 0.6  |

<sup>1</sup>Numbers of missing responses per item range from 0 to 6 unless otherwise noted.

<sup>2</sup>Select all that apply.

<sup>3</sup>Among those who were told about applying chlorhexidine.

<sup>4</sup>Among those who applied chlorhexidine (n=193); 9 missing responses (total valid responses=184).

<sup>5</sup>Among those who did not apply chlorhexidine all 7 days (n=86); 2 responses missing (total valid = 84).

<sup>6</sup>Among those who responded to questions regarding use and a combination of the number of days they applied chlorhexidine and reasons why not (n=188).

### IMPLICATIONS

- Mothers and local caregivers in Haiti are committed to improving neonatal health
- Results suggest adapting instructions to include clean gauze/cloth as substitute for traditional cord/abdominal coverings
- Community-campaigns promoting chlorhexidine application instead of unhygienic cord care practices may effectively reduce newborn cord infections, neonatal sepsis and death
- Such strategies can be used for improving other aspects of newborn care

### ACKNOWLEDGEMENTS

