

Kung'u JK, Owolabi O, Essien G, Aminu FT, Ngnie-Teta I, Neufeld LM. **Promotion of zinc tablets with ORS through child health weeks improves caregiver knowledge, attitudes, and practice on treatment of diarrhoea in Nigeria.** *Journal of Health, Population, and Nutrition* 2015; 33:9-19

Introduction

Diarrhea remains the second leading cause of childhood mortality globally, and is being responsible for about 700,000 deaths annually [1]. Therapeutic zinc supplementation, given in combination with low-osmolarity oral rehydration salt solution (ORS), has been shown to reduce diarrhea severity and duration, and may prevent new episodes of diarrhea within the first 2-3 months following an episode [1-3]. On the basis of these benefits, the WHO and UNICEF recommend the use of zinc (20 mg daily for 10-14 days) along with ORS in the treatment of diarrhea. In Nigeria, where the number of annual diarrhea-specific childhood death is estimated at about 150,000, the use of zinc and ORS for diarrhea management remains low despite existing national guidelines [4, 5]. A major barrier to community-based diarrhea management is the lack of knowledge among caregivers and health providers, and hence a lack of demand for these essential interventions [6]. The government of Nigeria has recently begun to incorporate diarrhea-related educational activities into the Maternal, Newborn and Child Health Week (MNCHW) program, to promote prompt diarrhea treatment.

This issue of NNA summarizes a paper by Kung'u and colleagues recently published in the *Journal of Health, Population and Nutrition*. The study investigated the potential to use the MNCHW program as a platform to create demand for zinc and ORS in community-based diarrhea management [7]. Specifically, the study was designed to evaluate whether the incorporation of a diarrhea-specific education sessions into the MNCHW program may improve caregivers' knowledge, attitudes and practices (KAP) with respect to the use of zinc and ORS for diarrhea management.

Methods

The study was conducted in Osun State, in southwestern Nigeria. At the time of the study, the State of Osun had begun implementing a public health strategy that involved the distribution of zinc supplements and ORS through the public health clinic services. Sample selection for the present assessment proceeded in two steps: first, inclusion into the study was restricted to the 3 (out of 30) local government areas (LGA) having the highest prevalence of diarrhea in the state. This was done to increase the likelihood of enrolling a caregiver whose child had had a recent diarrheal episode. Second, half of all health clinics in each of the 3 LGAs were randomly selected for the purpose of conducting interviews. From each health clinic, a minimum of 10 caregivers presenting to the MNCHW and having a child under 5 years was selected to participate in the study, upon consent.

Intervention

The primary intervention was a government program which implemented diarrhea-education sessions and the distribution of zinc and ORS through the MNCHW. This initiative is currently being rolled out in a few states across Nigeria. Educational sessions are delivered by trained health workers on a one-to-one basis during the MNCHW and a diarrhea management kit consisting of one treatment course of zinc tablets and two sachets of ORS is distributed to all participating caregivers. In addition, materials with pictorial illustrations are handed out to explain a) how to use zinc and ORS, b) when to take the child to the health clinic in relation to a diarrhea illness; and c) best practices to prevent future diarrhea. Another component of this program involves the provision of zinc and ORS to public health clinics in the selected states.

Data collection

Pre-MNCHW interviews were designed to assess caregivers' KAP regarding diarrhea treatment just before participation in the MNCHW. After the MNCHW participation, an exit interview aimed to assess caregivers' ability to recall information related to the use of zinc and ORS as instructed by the health worker during the MNCHW. Both types of these interviews were implemented at baseline (November 2010) and endline (May 2011). In addition, caregivers were identified from health clinic registers, who had sought diarrhea treatment for their child. Home-based interviews of these caregivers were done ~5 months after the baseline assessment to further assess whether the time since last encounter with health care provider predicted caregivers' ability to recall the correct use of zinc and ORS.

Statistical analyses

Chi-squared analyses were used to compare differences in KAP between baseline and endline among caregivers of children under five. Logistic regression was used to model the odds of having seen or heard a message about zinc and ORS, and the odds of seeking care outside the home for diarrhea. Logistic regression was used to determine whether participating in the first MNCHW predicted KAP at the second MNCHW.

Results and conclusions

The study included a random sample of 589 eligible caregivers selected for the baseline interview (November 2010), and another independent random sample of 602 selected for the endline interviews (May 2011). Home-based assessment of KAP was conducted 5 months after the baseline assessment among a random subsample of caregivers (n=180) who had visited participating health clinics for diarrhea care for a child under 5 years. Knowledge on diarrhea management (i.e. hearing or seeing anything related to the use of zinc and ORS) in the past 3 months increase from 46% during the baseline survey to 71% during the endline survey. Community health workers were cited as the primary source of diarrhea information during either survey (25% and 46% for baseline and endline, respectively). There was an increase in the proportion of caregivers who believed that a) zinc reduced the duration of diarrhea (44% at baseline vs. 80% at endline); b) zinc reduces severity of diarrhea (44% vs. 76%), and c) the complete 10-14 day dose should be administered (44% vs. 78%). Although diarrhea care seeking outside the home generally increased from the baseline (68%) to endline (80%), the likelihood that

diarrhea care seeking was sought outside the home was reduced by ~40% among caregivers who attended both the baseline and endline sessions, compared to those who only attended the endline sessions, likely because of increased availability of zinc and ORS in the homes. Overall, the baseline promotional activities were associated with improved KAP at the endline with respect to the use of ORS and zinc [7].

During the exit interviews, the majority of caregivers (91% at baseline and 84% at endline) knew the correct dosage of zinc. However, at the 5-months follow up home visits, only 53% knew the correct zinc dose. A similar pattern in knowledge was found for the preparation of ORS. Thus, although the knowledge seemed to have been communicated well during the educational session, the information was forgotten over time among some caregivers.

Policy implications

Findings from this study suggests that this new initiative approach of promoting awareness of zinc and ORS through public sector channels and distributing zinc and ORS for home use may be a potentially effective strategy to not only increase the knowledge about diarrhea treatment among caregivers who attended educational sessions, but also increase home-based diarrhea treatment with zinc and ORS. However, the study design and analytic strategies applied preclude an assumption of causality.

NNA Editor's Comments*

Despite existing national guidelines recommending the use of zinc and ORS for diarrhea treatment in Nigeria, access to and use of both zinc supplements and ORS for treating childhood diarrhea episodes remain low. This is a common problem encountered when therapeutic zinc supplementation is introduced into existing diarrhea control programs [8]. Not only is it important to train health care workers about the appropriate diarrhea treatment, caregivers also need to recognize diarrhea and risk of complications [9]. These results also emphasize the importance of diarrhea treatment behavior change communication (BCC) and service delivery through community-based actors to reinforce what is communicated and supplied at the level of health facilities and to sustain household level knowledges and practices related to diarrhea treatment. Thus, innovative strategies such as the present example from Nigeria are needed to build on existing public health platforms.

*These comments have been added by the editorial team and are not part of the cited publication.

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