



OPERATIONS RESEARCH SUMMARY

Quality Assurance Project II

Developing Job Aids to Increase Adherence to an Antibiotic Regime in Children with Pneumonia: Niger

The development of antimicrobial resistance (AMR) has increased the worldwide threat of infectious disease. Strategies to curb the development of AMR include improving (1) patient counseling and (2) antibiotic regimen adherence. The purpose of this study¹ was to develop job aids to enhance parental compliance with antibiotic regimens (specifically cotrimoxazole) for the treatment of pneumonia in children in the Dosso Region, Boboye District, of Niger.

Methods

As a first step, a qualitative methodology was used to assess parental knowledge of respiratory infection, medications (specifically antibiotic therapy), traditional remedies, health-seeking behavior, cultural beliefs about wellness and illness, traditional dissemination of information, and the appropriate way to deliver a message to caretakers of children. The study sample comprised 21 key informants, eight focus groups (four of men only and four of women only), four interviews with health workers, 32 clinic visit observations, 32 exit interviews with mothers of children with pneumonia, and 16 household observations of mothers giving medication to children with pneumonia. Observation of health center activities included patient counseling, availability and/or quality of counseling materials, and the number and duration of antibiotic stock outs.

Results

The assessment of parental knowledge showed that although most women understood the antibiotic regimen when leaving the health center, only half could recall the correct information three days later during a home visit. Both women and men thought that cotrimoxazole was very effective in treating pneumonia, but traditional remedies were often used before taking a child to the health center. Women were dependent on men to provide for the cost of a clinic visit and/or medication for their children. Cotrimoxazole could be purchased more cheaply in the market than at the health center. Health workers often did not counsel on how to prepare and administer the antibiotic or verify the mother's comprehension of such counseling. Medication in the home was not stored out of the reach of children, and little or no emphasis was placed on completing the prescribed drug treatment.

The findings of the first step were presented in a workshop for Ministry of Health personnel in Niger. Workshop participants developed key messages, which resulted in several ideas for job aids for both health workers and caretakers. These ideas included a counseling card and poster for health workers and a medication envelope for mothers that portrayed images from the counseling card and poster.

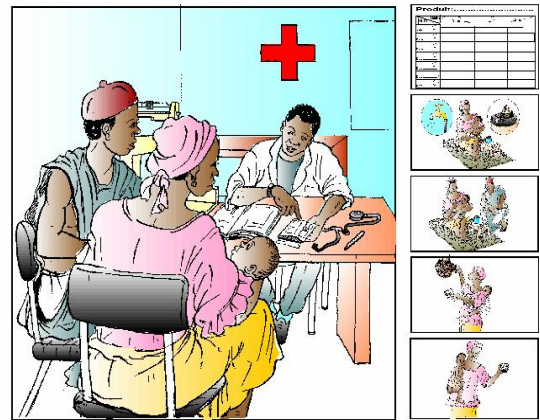
The counseling card contained four images depicting messages on how to: (1) crush, (2) administer, (3) store the antibiotic, and (4) complete the entire five-day regime. Associated text on the reverse side prompted the health worker to discuss these messages with the client. The poster depicting a health worker counseling a family using good interpersonal communication skills was designed repeating the same four images. For the mothers, an envelope to hold the Cotrimoxazole pills was developed. One side of the envelope had images that showed the dose, frequency and number of days the medication should be taken, and on the reverse side were the same four images from the health worker counseling card and poster.



Draft versions were tested, modified, and retested prior to production. The image illustrating the storage of the medication in a dry place out of the reach of children is shown. This image was clearly understood by the focus groups.

The full color poster shown to the right was well liked by the health workers. They asked that the written instructions on the back of the counseling card be included on the poster, and said the small pictures on the poster were useful for interpersonal counseling.

The job aids described in this report were designed to improve both patient counseling by health workers and caretaker adherence to an antibiotic regimen. Preliminary testing of the job aids indicated that key messages on adherence with an antibiotic regimen can be conveyed to women through simple images and their reinforcement by verbal messages from health workers. The second phase of the study² evaluated the impact of the job aids on the actual adherence of mothers and on the quality of counseling by health workers.



¹ The complete study is reported in: Edson WN, Boucar M, Koniz-Booher P, Djibrina S, Mahamane I. September 2004. Developing job aids to increase adherence to an antibiotic regimen in children with pneumonia in Niger. *Operations Research Report*. Bethesda, MD: Published for USAID by the Quality Assurance Project, and in Edson WN, Boucar M, Koniz-Booher P, Djibrina S, Mahamane I. 2002. The role of research in developing job aids for pneumonia treatment in Niger. *Intl J Qual Health Care* **14** (S-1): 35-45.

² The complete evaluation study is reported in: Djibrina S, Edson WN, Boucar M, Diogou A, Hama IS. 2005. The Niger QAP/BASICS Joint Project: An Evaluation of QA Activities Two Years Later. *Operations Research Results*. Bethesda, Maryland: Published for USAID by the Quality Assurance Project (QAP), University Research Co., LLC, Bethesda, MD. QAP publications are available at www.qaproject.org.