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Intervention

The development of a treatment guideline for childhood malaria in rural Southwest Nigeria using participatory approach

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ABSTRACT

Objective To describe the development of a treatment guideline for the effective case management of malaria in children at the home level.

Methods Thirty-three mothers selected from 11 communities in a rural health district, community members and the research team developed a guideline for treatment of malaria at home by caregivers using a participatory approach. This was done in phases using modified focus group discussion sessions. Suggested ideas were depicted in illustrations by a graphic artist.

Results A guideline which illustrated the presentation of clinical types of malaria, the appropriate steps to take for each type and the correct dosage schedule of chloroquine (based on the age of the child) for treatment of uncomplicated malaria was developed. The guideline was in cartoon format and the script in the local language.

Conclusion Use of a participatory approach was found acceptable and effective in the development of the guideline. This approach is therefore recommended irrespective of the target population or the intervention to be developed.

Practice implications Preparation of educational materials with contributions from end users does not only build capacity at the local level but also increases the acceptability and ownership of such materials.

1. Introduction

In recent years, the main thrust of malaria control in Nigeria and other malaria endemic countries has been the early diagnosis and prompt treatment of cases [1]. However, it is widely recognised that a large proportion (60–80%) of malaria cases in Nigeria is treated outside the official health care system and mostly at home using drugs at incorrect dosages [1–4].

The home treatment of malaria is defined as any treatment for presumed malaria with antimalarial drugs that are not given during or after a visit to a health facility such as a health centre, a dispensary, a maternity center, a private or public hospital [5]. A preliminary study in this study area shows that about 72.0% of mothers/caregivers practised home treatment but only 3.0% administered the correct dose of chloroquine (CQ) [6]. Chloroquine which was the first line antimalarial drug in Nigeria at the time of this study is readily available both in urban and rural areas through pharmacy stores, itinerant drug sellers and patent medicine sellers (PMS). The country adopted the use of artemisinin-based combination therapy (ACT) only in January 2005.

A few interventions have been carried out to improve compliance with the correct dosage of chloroquine in home treatment of uncomplicated malaria in Nigeria [7–9]. These interventions have had a limited long-term effect probably due to a lack of sustainability and to a limited diffusion of interventions outside of the initial study communities [10]. In addition, anecdotes have shown that the target groups are seldom involved in developing the educational messages and materials that are meant to address their health problems [11,12]. Interventions designed solely by experts/researchers makes no room for the input of the practical experiences, invaluable perspectives and useful ideas of the community members for whom the interventions were made in the first place. For this reason, the interventions that are recommended by these resource persons have limited acceptance and utilization in the community [11,13–15]. This is more so if the design of such materials is not culturally acceptable or easily comprehended by people with low literacy levels residing

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in the rural areas of developing countries [16]. For this reason it is believed that community participation in the development of a malaria management guideline should ensure its acceptability and subsequent use [11].

The goal of this study was to create an appropriate and relevant child malaria management guideline for mothers and child carers that would be comprehensible and acceptable to them and thus foster sustained use. This paper describes the process of developing such a guideline through a community participatory process.

2. Theoretical framework

The participatory model emerged in part as a reaction to the underlying assumptions of the diffusion model [17] which holds that development communication is not a vertical process of information transmission from the knowledgeable to the less-knowledgeable. Rather, it is a horizontal process of information exchange and interaction. Proponents of this approach stress the model of empowerment adopted from the work of a Brazilian educator, Freire [18]. Freire's model posits that the purpose of development is to empower people to have a greater control over decisions that affect them and in this way to foster equity and democratic practices. In its purest form, the participatory approach sees development interventions "less as a means to an end than as offering ends in themselves: the emphasis is not on outcomes but on processes." People are regarded "as agents rather than objects; capable of analysing their own situations and designing their own solutions" [19].

Many participatory health researchers cite the 1978 World Health Organization Declaration of Alma Ata which states that "the people have the right and duty to participate individually and collectively in the planning and implementation of their health care" as a guiding principle. The essence of the participatory approach lies in working with community members to determine their needs and in designing programs to address them, rather than in imposing an intervention from above. This forms the framework for the development of this guideline.

The use of a participatory approach stands to empower participants and create in them a sense of belonging. This approach also provides an opportunity for the investigators to benefit from the knowledge of the community members and from their practical day-to-day experiences. A guideline that is developed using this approach is most likely to be more explicit and more acceptable to the target population than a guideline developed solely by investigators [11,20,21]. Incidentally, where appropriate, community participation should be an integral part of programme planning, execution and evaluation [19,22].

Illiteracy is a serious impediment to comprehension of written communication and adherence to drug regimens [23]. Visual aids such as pictorial, graphic or verbal symbols have been found to be effective in assisting peoples with low literacy levels in their understanding of educational messages. Pictorial educational messages by itself and with elementary, clear written messages (in the local language) facilitate understanding and recalling of health information. In addition they reinforce written instructions and subsequently promote adherence [16,24,25,20].

In most rural/traditional contexts verbal communication remains the most powerful, appropriate and persuasive form of communication and more reliance is placed on spoken explanation [16]. However, when pictures/illustrations depicting verbal instructions are appropriate, simple, with clear captions and sensitive to the culture of the users they stand to reinforce spoken instructions and comprehension as well as to enhance memory and recall [16,20,26]. This could enable peoples with low literacy skills to make an optimum use of information spoken by health workers.

3. Methods

3.1. Study location and population

The study was carried out in Ona-Ara Local Government Area (LGA), in southwestern Nigeria from November 2002 to June 2003. The population of the LGA is about 147,847 (projected for 1997 National Census). The inhabitants who are mainly peasant farmers and traders from the Yoruba ethnic group live in 200 villages which are divided into eight health districts—six rural and two urban. Each health district has a primary health centre. Other health care providers available in the communities are patent medicine sellers, itinerant drug hawkers and traditional healers. Itinerant drug hawkers and patent medicine sellers are the main sources of antimalarial drugs in the communities.

The area has a tropical climate with hot dry-season from November to April and a rainy season from May to October. Malaria is hyper-endemic in this LGA.

The development of this guideline is part of an intervention study to improve compliance with the treatment of malaria at the home level. Two of the six rural districts in the LGA were selected by simple random sampling for the study and one was allocated to be the intervention arm while the other was the control arm. The guideline was developed in the intervention arm.

3.2. Community engagement and selection of "mother trainers"

The investigators, in the company of key officers of the Primary Health Care (PHC) Unit of the LGA, met with the village heads and opinion leaders of communities in the intervention health district to discuss the objectives of the study. Opinion leaders were subsequently requested to select the mothers who would be trained to assist in the development of the guideline and who would thereafter be responsible for training other mothers/caregivers in the community. A schematic diagram of the method is shown in Fig. 1.

Thirty-three mothers were selected from 11 communities using a set of criteria which was drawn up by the research team but revised and finalized following the contributions of the community leaders. The criteria included:

- The ability to read and write "Yoruba" (The local language).
- Having been resident in the community for at least a year and intending to stay there through out the study period.
- Being the mother of at least one child who is 10 years of age or younger. The 10 year age limit is used because the risk of malaria is higher in this age group than in older age groups, however, more so in the under-five group. Choosing an age range that is higher than 5 years also made it easy for some communities to select women that met the inclusion criteria.
- Being acceptable to the community.
- Possessing a good disposition towards the care of children.
- Willing to attend to sick children at anytime of the day.
- Married to cooperative husbands who are willing to support the performance of the assigned responsibility.
- Committed to work for their community.

The number of mothers selected per community was based on the population of the community. One mother was selected per population of approximately 50 people. The selected mothers were interviewed by the investigators to ascertain their suitability or otherwise. Mothers who did not meet the selection criteria were replaced with the assistance of the community head.