



THE USE OF INSECTICIDE TREATED NETS AMONG CHILDREN IN IDAH METROPOLIS, KOGI STATE, NIGERIA

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Abstract

The prevalence of malaria parasitaemia among children using insecticide treated net was investigated in Idah metropolis for two malaria transmission seasons. In each survey questionnaires were administered on previous parity history and malaria parasitaemia were determined. A total of 300 children between the ages of 4-12 years were enrolled in general hospital Idah. A total of 194 (65%) uses ITN net and out of these number 24 (12%) had microscopic parasitaemia. There were more positive cases among the non users of ITN showing that ITN are important tools for eliminating malaria infection in our society.

Keywords: Malaria, pregnant, parasitaemia, ITN.

Introduction

The world health organization estimated that between 1.5 to 2.7 million people die of malaria, while 300-500 million clinical cases occur annually (WHO, 1993), over 90% of the malaria burden occurs in sub-Saharan Africa (WHO, 2002). Malaria contributes to inequality and poverty in the developing world affecting primarily the rural poor. In response to the need for low cost preventive measures, renewed attention has been directed to assessing the potential benefit of the ITN which can reduce all malaria mortality and morbidity between 17-43% in children under 5 years of age. Several studies have shown that ITN is an effective means of reducing man-vector contact and child mortality and morbidity (Bermejo and Veeken, 1992; Alonso *et al.*, 1993; Binka and Adongo, 1997; Navill *et al.*, 1996; Habluetzel *et al.*, 1997). Control trials showed that ITN reduces clinical malaria episode by 48% and protect 6 of every 100 children life in the age of 1-59 months every year (Lengeler and Snow, 1996). Design a sustainable and effective strategy for the adoption and continuous use of ITN is a difficult task because sleeping under an ITN does not necessarily mean that one is completely protected from malaria, although they are socially desirable and readily acceptable in many communities, programmes are battling with people to acquire, maintain, and correctly use them (Philips-Haward *et al.*, 2003).

Several social and cultural factors influence the acceptance and use of ITN in communities, malaria health seeking behavior in Ghana and elsewhere in Africa often demonstrate the lack of association between mosquitoes bite and malaria (Agyepong, 1992). In Burundi the main motivating factor for buying and using ITN depends on largely on the nuisance level of the mosquitoes, however, it was not completely clear whether the nuisance effect of insects sufficiently explain why people accept and use ITN, but in Malawi it showed the lack of knowledge about the role mosquitoes play in the transmission of malaria was related to bed net ownership and use and insufficient effort to eliminate breeding sites for mosquitoes to reduce vector densities (Ziba *et*

al.,1994; Agyepong,1994). The ITN interventions require more social, cultural, diagnosis; treatment and prevention influence their use. (Agyepong, 1999; Alii *et al.*, 2003; Binka and Akwengi, 2006). The work aimed at studying the effective use of ITN among children at Idah, Kogi State, Nigeria.

Materials and Methods

The prevalence of malaria and use of ITN were investigated among 300 children between the ages of 4-12 attending general hospital, Idah, Kogi State in two malaria seasons. (2010-2011). Blood samples were collected for malaria parasitaemia and anemia and questionnaire forms were used to interview the children on the awareness and use of ITN, were children could not understand questions correctly; the parents who normally accompany them to the hospital clarifies them. Thick blood films were prepared from capillary blood stained with Giemsa stain and observed under oil immersion objectives. The parasite densities were determined by counting the number of parasites from the various fields and slides were double checked blindly. All samples collected and examined within the children's units of hospital laboratory.

Results and Discussion

A total of 195 (65%) children were aware of ITN and used it (Table 1). About 105 (35%) do not use the net. Among the population (195) that used ITN about 24 (12%) had malaria. While about 56 (53%) had malaria among the non users. The results showed that high prevalence of malaria parasites among the children studied 80 (26.7%). The high prevalence of malaria parasite infections among the study group agrees with the results obtained by Lengeler (2000), in his trials, ITN was able to reduce malaria episode by 48% in children. Awareness in this study was found to be 65% which is less than the 80% recommended by Govella *et al.*, (2010) coverage of ITN to be able to achieve effective outdoor malaria prevention and control.

Table 1: Prevalence of malaria parasitaemia among children using ITN or not examined in Idah

Children	Respondents		Positive for malaria		Negative for malaria	
	No.	%	No.	%	No.	%
Total no.	300		80	26.7	220	84.3
Made use of ITN	195	65	24	12	171	87.6
Did not use ITN	105	35	56	53	49	46
Male	159	53	51	32	108	68
Female	141	47	29	21	112	71

WHO (2000) launched ITN as one of the best malaria control measure and the use in several countries has recorded success. Bermejo and Veekan (1992) studied the effective use of ITN in reducing malaria, and his results gave evidence that ITN can provide substantially reduced children mortality. Insecticide treated nets are now important method of controlling malaria. The protective effect will be stronger if they are used by a high proportion of the population at risk. How to achieve this high coverage is currently the object of debate (Smith, 2001). Should ITN be sold as commodity using social marketing to stimulate their sales and Should ITN be provided free to the group at risk. According to Lengeler, (2000), in Africa where 90% of malaria death occur, many of the sufferers are the rural poor with little resources even at the modest cost. Rural areas where ITN are sold through social marketing have not achieved the desire coverage of 60% of children under 5 years and 60% of pregnant women. The results suggest that ITN is impactful positively on children and can reduce malaria significantly when properly used. It is therefore recommended that the

protective use of ITN will be stronger if high proportion of the population at risk is covered. There should be increase in the number of ITN per year and distributed to target population or the price made affordable or net free. The attitude of users should be changed positively so that they can obtain maximum benefit.

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