

## Retreatment Process and Dependence on Herbs as Inhibitors to Using Insecticide Treated Nets (ITNs) among Mothers in Egbeda Local Government Area of Oyo State

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**Abstract:** Malaria have had serious impact on mortality and morbidity in young children. The study focused on re-treatment process and dependence on herbs as inhibitors to using insecticide treated nets (ITNs) among mothers in Egbeda Local Government Area of Oyo State. Three hundred participants who were mothers of children under 5 years old were selected through the purposive sampling technique to gather data for the study. The instrument was a self-developed modified likert-type structured questionnaire which was validated and subjected to a reliability test ( $r = 0.95$ ). simple percentages and frequency counts were used to analyze demographic data while chi-square ( $\chi^2$ ) was used to test the significance of the hypotheses at 0.05 level of significance. The findings showed that re-treatment process was not seen as problem of using ITNs whereas dependence on herbs was significantly perceived as a major inhibitor to using ITNs. Based on the findings, it was concluded that the mothers have not really the ITNs use as complimenting other local methods of malaria prevention. Therefore, it was recommended that among others, the intervention programmes that would increase level of awareness about usefulness of ITNs among mothers of children under 5 years old should be carried out. And that Government should subsidize the cost of ITNs to make it affordable to the less privileged families.

**Key words:** Retreatment process, herbs, inhibitors, insecticide treated nets, Nigeria

### INTRODUCTION

Malaria is a life threatening parasitic disease transmitted by mosquitoes. It is a disease of wide geographical distribution common in countries of Africa, South America and South East Asia (WHO, 2001) of the estimated annual 300-500 million clinical cases 1.5-2.7 million deaths that are directly attributable to malaria, the great majority occur in young children of remote rural areas of sub-Saharan Africa (S.SA) (WHO, 1997; Snow *et al.*, 1999).

Insecticide-Treated Netting (ITN) materials are powerful health tool and can have a substantial impact in Africa: regular use by young children can reduce their risk of dying by 20% and the number of clinical malaria episodes by 50% (Netmark, 2001). Promoting ITN materials is therefore, a key approach by the Roll Back Malaria partnership to the reduction of malaria mortality or morbidity. For more than two decades now insecticide treated bed nets and curtain (ITNs) have raised renew interest as a tool in malaria control. In Africa, five major trials in areas of different malaria transmission intensities have documented a reduction in mortality of

young children associated with ITNs protection (Habluetzel *et al.*, 1997). However, a current challenge that is facing many sub-Saharan Africa countries like Nigeria is how to achieve wide spread distribution and use of ITNs for control of malaria. The Africa malaria reports shows that reaching the target of 60% ITNs coverage in sub-Saharan Africa countries by the year 2005 which was set in Abuja by the African Heads of State for the provision of ITNs to children under five and to pregnant women (Onwujekwe *et al.*, 2005). However, there are various factors that are associated with use and non use of ITNs. These include cost of ITNs, lack of knowledge about the treatment process and unavailability of treatment. Also, dependence on herbs as mosquito repellents and malaria treatment are regarded as problems of using ITNs.

Insecticide for net treatment is still an unfamiliar commodity in Africa. Nets are well known and tangible household utilities recognized even in places where net ownership is rare and nets are available through commercial channels in North African towns. According to Rhee *et al.* (2005), the reason why people did not impregnate their bed nets included not knowing anything

about ITNs and not having net treatment services readily available in the village. In the village of 73 households, the sampled ten stated that they had previously treated their bed nets and had seen the benefits of ITNs. They were however not retreating their nets because there were no nets treatment services in their locality. Again in a study in Nigeria, Netmark (2001) reported that the reactions of parents to the idea of treating nets with insecticides were generally positive with over half (20) of the 33 parents who expressed an opinion about ITNs acknowledged its effectiveness. But when asked whether they thought it would be dangerous for a young child and/or pregnant woman to sleep under a treated net the majority of respondents (39 of 51) agreed that it would. Also, Winch (1997) stated that people may not truly understand the value of insecticide-treated bed nets and re-treatment. Rather than spending the extra money to pay for retreating bed-nets, people may opt for cheaper means of anti-mosquito methods which are not as effective in preventing malaria.

Furthermore, malaria treatment was often reported to be a combination of both modern and traditional methods. According to Onwujekwe *et al.* (2000), people usually started with some traditional therapies followed by modern treatment in case of failure depending on the type of malaria and its severity. Also, in a study in 5 rural communities in Nigeria Onjekwe *et al.* (2000) reported that most respondents reported the regular use of traditional treatment like flowers, eucalyptus plants, acacia citronella, papaya guava, leaves and roots of the neem tree. However, unlike biomedical drugs, the effectiveness of herbal treatment was uncertain. This according to feedback from respondents was so because herbal treatment works for some people while, others would still need to make recourse to orthodox medicine after an unsuccessful attempt at herbal treatment.

**Statement of the problem:** Two groups of people that are of special risk of malaria infection are children under 5 years of age and pregnant women (WHO, 1997). According to Federal Ministry of Health (FMOH, 1991), malaria is responsible for about 30% of deaths in children under the age of 5 years. The result further stated that approximately 50% of the population experience at least one episode of malaria each year.

However, in an interview with Malaria Control Officer in Egbeda Local Government Areas of Oyo State, it was discovered that despite various campaigns carried out by government and non-governmental agencies, the percentages of mothers of children under 5 years old in Egbeda Local Government using ITNs for their children is still low (I. Adegoke, personnel communication, March 20, 2006). This might not be unconnected with the

envisaged problems associated with use of ITNs such as net re-treatment process and over dependence on herbs for malaria treatment. This study is therefore meant to investigate the retreatment process and dependence on herbs as problems of using ITNs by mothers of children under 5 years old in Egbeda Local Government Area of Oyo State.

**Hypotheses:** The following hypotheses were tested:

- Retreatment process of ITNs will not significantly be perceived as being a problem of using it by mothers of the children under 5 years old in Egbeda Local Government Area of Oyo State.
- Dependence on herbs for curing malaria will not significantly be perceived as being problem of using ITNs by mothers of children under 5 years old in Egbeda Local Government Area of Oyo State.

## MATERIALS AND METHODS

The population of this study was made up of mothers of children under 5 years old in Egbeda Local Government Area of Oyo State. The descriptive survey research method was used for this study due to the large size of the population. The design also assisted the investigator to critically and carefully explain the variables that exists in the study based on the data collected. The sample for this study was made up of 300 participants drawn from six wards out of eleven wards in the Local Government. Simple random sampling technique of fish bowl with replacement method was used to select six wards out of eleven wards. The wards selected were Erunmu, Monatan, Egbeda, Alakia, Wakajaye and Olubadan. Thereafter, purposive sampling technique was used to select 50 mothers of children 0-5 years old from each of the selected wards. The instrument for this study was self developed structured questionnaire. It has items, testing for perception of insecticide treated nets. The validation was done by experts in health education and a reliability coefficient of 0.95 was obtained.

The questionnaires were administered on mothers of children under 5 years and collected on the spot by the researcher with the help of health and discussion of findings.

## RESULTS AND DISCUSSION

Data collected for this study were analyzed using descriptive statistics of frequency counts and percentages for demographic variables while inferential statistics of chi-square was used to test the hypotheses at 0.05 level of significance.

Table 1: Descriptive analysis of respondents' age

Age	Frequency	Percentage
15-24	18	6.0
25-34	102	34.0
36-44	126	42.0
45 and above	54	18.0
Total	300	100.0

Table 2: Descriptive analysis of educational status of the respondents

Educational status	Frequency	Percentage
No education	10	3.3
Primary	220	73.3
Secondary	49	16.3
Tertiary	21	7.0
Total	300	100.0

Table 3: Chi-square analysis of retreatment of ITNs

Responses	SA	A	D	SD	Total	$\chi^2$ crit	$\chi^2$ cal	df	p-value
Observed frequency	36	91	114	59	300	16.9	9.95	9	0.358
Percentage	12.1	12.1	37.8	19.8	100				

p(0.358)>0.05 level of significance

Table 4: Chi-square analysis on dependence on herbs

Responses	SA	A	SD	Total	$\chi^2$ crit	$\chi^2$ cal	df	p-value
Observed frequency	41	94	66	300	16.9	19.488	9	0.021
Percentage	13.8	31.3	22.2	100				

p(0.358)>0.05 level of significance

**Age of the respondents:** Table 1 shows that out of 300 respondents, 18 (6%) were within the age range of 15-24, 102 (34%) were within 25-34 years, 126 (42%) were within 35-44 years while the rest 54 (12%) were within 45 years and above.

**Educational status of the respondents:** Table 2 shows that 10 (3.3%) of the respondents had no formal education while majority 220 (73.3%) had primary education, 49 (16.3%) had secondary education and 21 (7.0%) had undergone tertiary education.

**Hypotheses 1:** Retreatment process of ITNs will not significantly be perceived as being a problem of using it by mothers of children under 5 years old in Egbeda Local Government Area of Oyo State.

Table 3 above shows that calculated chi-square of 9.95 is less than table value of 16.9 at df 9. The above null hypothesis was not rejected. This implies that retreatment process of ITNs was not significantly perceived as a problem of using it by mothers of children under 5 years old in Egbeda Local Government Area of Oyo State.

This result indicated that mothers of children under 5 years old do understand the need for retreatment of bed nets with insecticide every six months to maintain its potency. However, the result was not in support of the finding obtained in a survey in Nigeria reported Netmark (2001) which revealed that retreatment is a new concept that was virtually unheard of among parent only 6 of 51 know of this procedure and none was net owner.

**Hypothesis 2:** Dependence on herbs for curing malaria will not significantly be perceived as being problem of using ITNs by mothers of children under 5 years old in Egbeda Local Government Area of Oyo State.

As indicated in the Table 4 above, the calculated  $\chi^2$  value of 19.488 is greater than the table value of 16.9 at df 9. The null hypothesis 2 above was rejected. This implies that dependence on herbs was significantly perceived by mothers of children under 5 years old as being a problem of using ITNs. This is an indication that mothers still depend on use of herbs for treating malaria because it is readily available and costless. The finding supported Rue Bush (2001) reports of a study in Kenya which revealed that self treatment was extremely common, out of 138 episodes of febrile illness 60% were treated at home with herbal remedies purchased at local shops and only 18% received treatment at a health centre or hospital and no treatment was sought by the reminder.

## CONCLUSION

The study suggests that the respondents were of the opinion that retreatment process ITNs cannot be a problem of using it while ITNs. Therefore, it can be concluded that the respondents level of awareness about usefulness of ITNs is still low and this might not be unconnected with its low coverage in Egbeda Local Government Area of Oyo State.

## RECOMMENDATIONS

Based on the results obtained from the study the following recommendations are suggested:

- The aberrations noticed in respondents correctly identifying problems of using ITNs could be corrected using simple community health education outreach campaigns.
- Social marketing schemes health campaigns and development of a net culture through promotion and publicity will play their part in increasing demand.
- To ensure high coverage of use of ITNs among the populace particularly those who are at risk of malaria infection the Federal Government should facilitate reduction of taxes and tariffs on mosquito nets, netting materials and insecticides so they could be affordable.
- The government should encourage the development of local industries and competition among them by ensuring private sector investment in manufacturing and importing mosquito nets. Further government action in form of targeted subsidies or subsidy schemes is needed to bring ITNs prices down to a level affordable.

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