

Evidence Assessment: Summary of a Systematic Review

Who is this summary for?

This evidence assessment is for Doctors and Health Personnel, Administrators and managers of health facilities, Community Health Workers and the partners involved in the control of malaria.

Strategies to increase the ownership and use of insecticide-treated bednets to prevent malaria

Key findings

- Providing training for the appropriate use of insecticide-treated bednets (ITNs) may increase the number of adults and children under five sleeping under bednets.
- Providing incentives to encourage use of insecticide-treated bednets would probably lead to little or no difference in ownership or use of bednets.
- Free insecticide-treated bednets would probably increase the number of people who own bednets compared to providing subsidized bednets or bednets offered at full market price.

Background

Insecticide-treated bed nets fit over a bed and act as a barrier between insects and the person sleeping. The bed nets are dipped in insecticide, a chemical that kills or repels mosquitoes and effectively prevent malaria. Insecticide-treated bed nets cost money and it is important to find ways of ensuring that people who need them own them. Even when people own bed nets they may not always use them properly. To be effective, bednets need to be used every night. They must also hang properly and be treated with enough insecticide. It is important to measure whether different strategies not only increase people's ownership but also people's use of bednets.

Question

What are the effectiveness of available strategies that focus on delivery and appropriate use of ITNs?

Strategies to increase the ownership and use of insecticide-treated bednets to prevent malaria in

Cameroon: Malaria is responsible for 40% of hospitalizations and 18% of all deaths in Cameroon according to the Demographic and Health Survey, 2011. At the national level almost half of household have at least one ITN, and 35% of households use one ITN for two persons (INS, 2013). The free distribution campaign going on in Cameroon may increase the proportion of utilization ITNs.

	What the review authors searched for	What the review authors found
Studies	Randomized controlled trials	Eight clusters randomized controlled trials; one randomized controlled trials and one control before after study met the inclusion criteria.
Participants	Children and adults with permanent residence in malarious areas.	Children under five years old, pregnant women, mothers of children under five years old and adults and women of reproductive in rural Africa and rural India.
Interventions	Unifaceted interventions are interventions with only one component (e.g. Insecticide-treated bednets distribution only), whereas multifaceted interventions consist of two or more components (e.g. free insecticide-treated bednets bundled with education about appropriate insecticide-treated bednets use).	Five studies used a combination of strategies focusing on insecticide-treated bednets delivery to increase Insecticide-treated bednets ownership and appropriate use. One study focused on delivery strategies to increase ownership only. Four studies examined appropriate use strategies.
Controls	Insecticide-treated bednets at any cost (with or without social marketing), or no education	Insecticide-treated bednets at any cost (with or without social marketing), or no education
Outcomes	<p>Primary outcomes</p> <p>ITN Ownership</p> <ul style="list-style-type: none"> • Proportion of households with at least one ITN. • Proportion of households with people/ITN ratio \leq 2.0 among households with any bednets. <p>Appropriate ITN Use</p> <ul style="list-style-type: none"> • Proportion of existing ITNs used. • Proportion of population sleeping under ITNs. • Proportion of pregnant women sleeping under ITNs. • Proportion of children under five years sleeping under ITNs. • ITNs. • Proportion of households with all children under five years sleeping under ITNs. <p>Secondary outcomes</p> <ul style="list-style-type: none"> • Equity ratio of household ownership with ITNs calculated • Across household income. • Child all-cause mortality. • Child malaria-specific mortality. • Child malaria morbidity. • All-cause mortality. • Malaria-specific mortality. 	<p>The outcomes reported were:</p> <ul style="list-style-type: none"> • Equity ratio of household ownership • insecticide- treated bednets use, • Malaria-specific morbidity in adults, • Malaria-specific morbidity in children,
Date of the most recent search: 18 October 2013.		
Limitations: This is a high quality systematic review, AMSTAR =10/11		
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Table 2: Summary of findings

Cost, education, and social marketing interventions to increase ITN ownership and use for malaria prevention			
Population: Adults (including pregnant women) and children			
Setting: Rural communities			
Intervention: Free ITN (with or without social marketing), or education			
Comparison: ITN at any cost (with or without social marketing), or no education			
Distributing ITNs free compared to making ITNs available for purchase through different mechanisms			
Outcomes	Impact	No of Participants (studies)	Quality of the evidence (GRADE)
ITN ownership among pregnant women, adults and children	Free ITN distribution probably increases the number of	5090 (5)	Moderate

	pregnant women, adults and children who own ITNs compared to providing subsidized ITNs or ITNs offered at full market price.		
Appropriate use	Free ITN distribution probably leads to little or no difference in rates of usage of ITNs compared to providing subsidized ITNs or ITNs offered at full market price	8837 (4)	Moderate
Education about appropriate ITN use compared with no ITN use education			
ITN use by adults (any ITN use)	May increase the number of adults using ITNs (including sleeping under ITNs)	889 (2)	Moderate
ITN use by children under 5	May increase the number of children under 5 years old using ITNs (including sleeping under ITNs)	11 748 (3)	Low
Providing incentives to encourage ITN use compared to no incentives			
Use (net mounted)	Providing incentives to Encourage ITN use probably leads to little or no difference in ITN use compared to those who did	519 (1)	Moderate

Applicability

Of the 10 studies, two were conducted in Kenya, two in Zambia and one each in one in Burkina Faso, Ghana, Ethiopia, Nigeria, Ethiopia and rural India. These interventions may be applied in other low resources settings such as Cameroon.

Conclusions

Compared to subsidized ITNs or ITNs offered at full market price, providing ITNs free probably increases the number of people who own ITNs. Education strategies to increase appropriate use of ITNs may increase the number of adults and children under five using ITNs.

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