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Association between malaria and malnutrition among children

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Objectives



01

Define malaria and malnutrition

02

Describe epidemiology of malaria in nutrition state

03

Explain how malaria associated with malnutrition effect the children

04

Outline the most common area associated with malaria and malnutrition

05

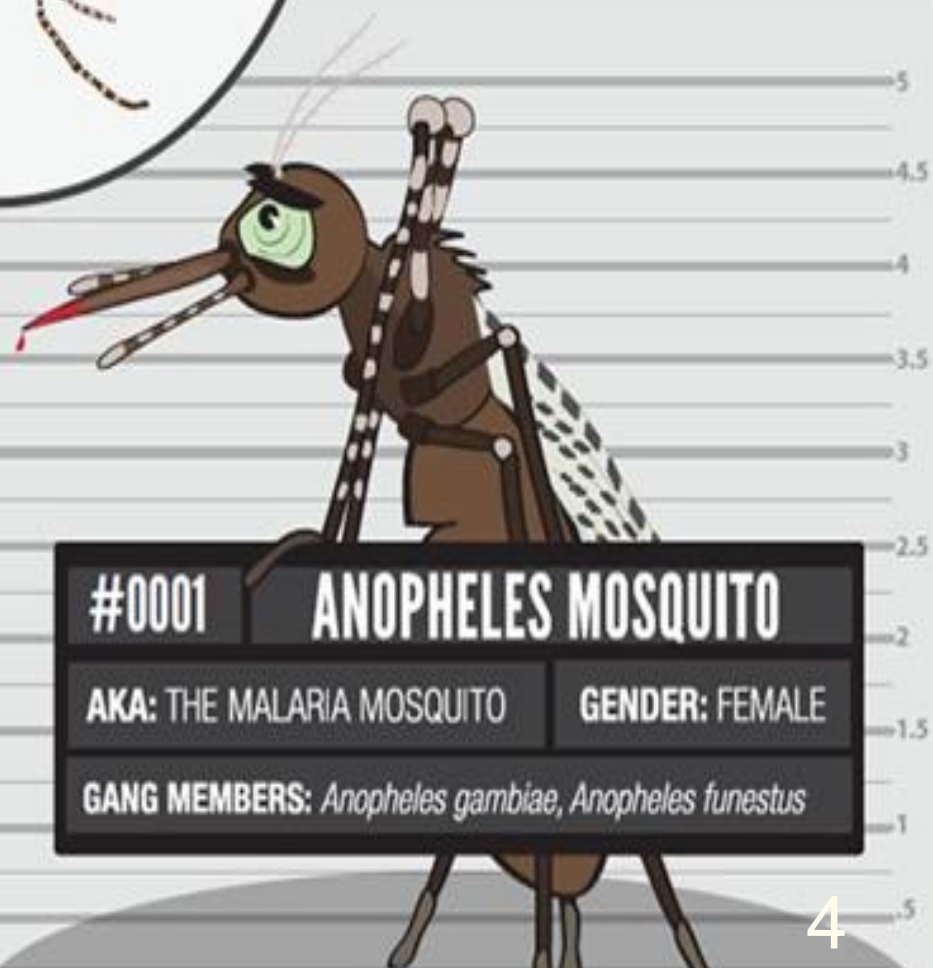
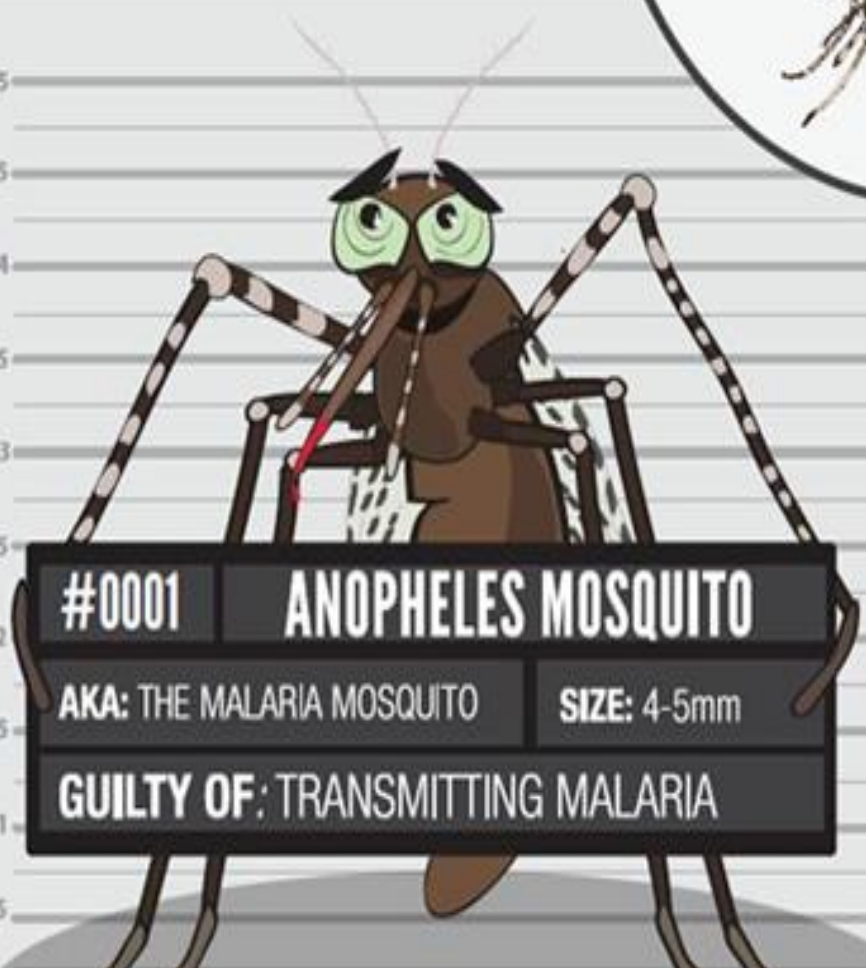
Outline the prevention and treatment of malaria associated with malnutrition



- **Malaria** is one of the most common infectious diseases and one of the leading causes of **DEATHS**
- Caused primarily by four plasmodia: **Plasmodium vivax**, **Plasmodium ovale**, **Plasmodium malariae**, and **Plasmodium falciparum**.

Plasmodium vivax and P. falciparum are more common causes of malaria than are P. ovale and P. malariae. Plasmodium vivax is most widely distributed and P. falciparum causes the most serious disease.





The vector and definitive host for plasmodia is the female *Anopheles* mosquito (only the female takes a blood meal)





Epidemiology of malaria in nutrition state

malnutrition:

The inadequate consumption of protein and energy as a result of primary dietary deficiency or conditioned deficiency may cause loss of body mass and adipose tissue, resulting in protein energy or protein calorie malnutrition (PEM or PCM).



- About 1.5 million to 3 million people die of malaria and malnutrition every year accounting for about 4-5% of all fatalities in the world.
- One child dies of malaria and malnutrition somewhere in Africa every 20 sec., and there is one malarial and malnutrition death every 12sec somewhere in the world.
- Malaria kills in 1 year what AIDS killed in 15 years. In 15 years, if 5 million have died of AIDS, 50 million have died of malaria.



Study investigated the epidemiology of malaria with malnutrition

How malaria due to malnutrition In children?

intrauterine growth retardation can be caused by maternal malaria that can create nutritional problems for the fetus.

If this continues through to delivery it can cause low birth weight (LBW).

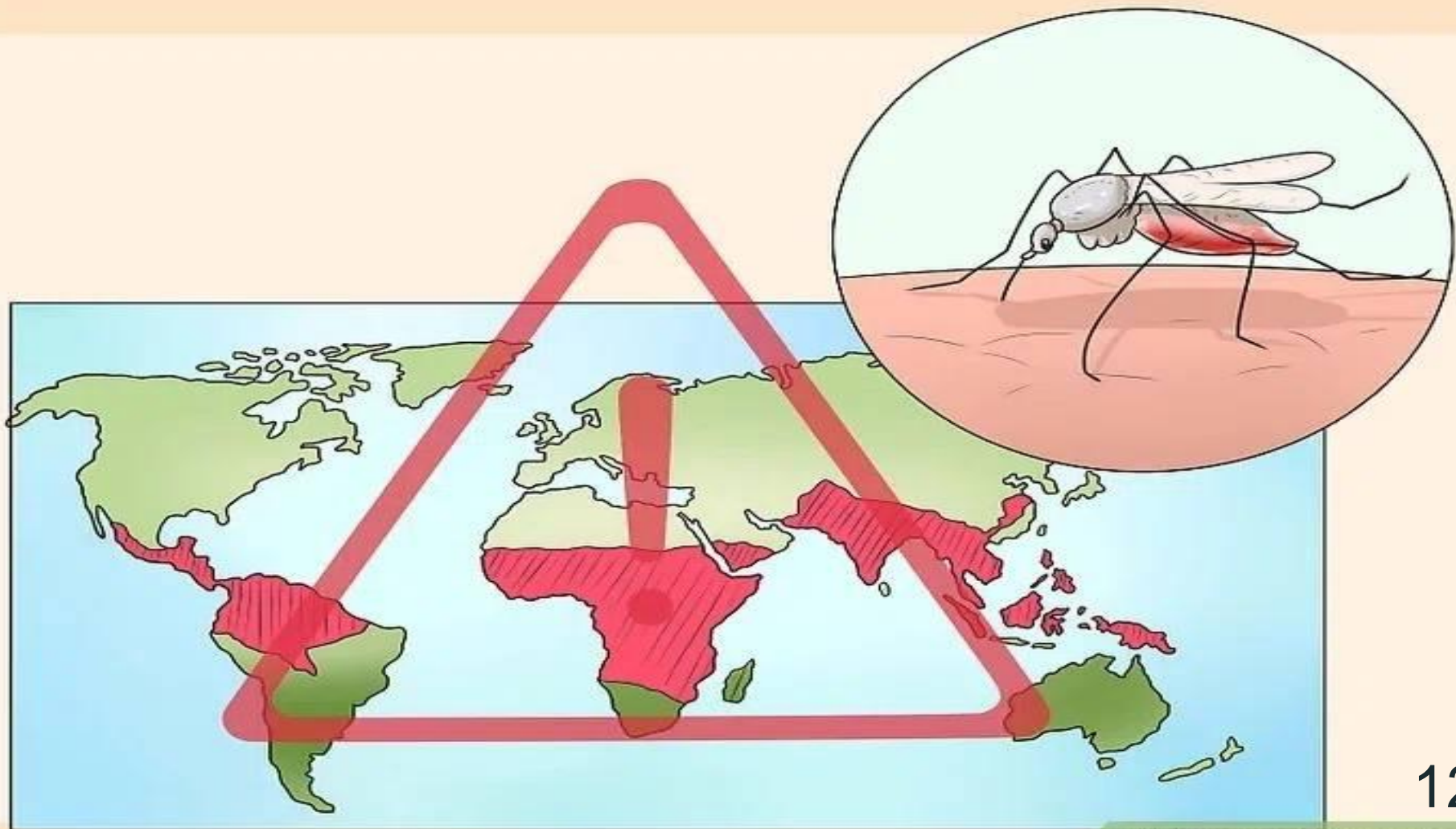
Maternal malaria contributes for up to 30% of LBW cases.

If a baby is low birth weight due

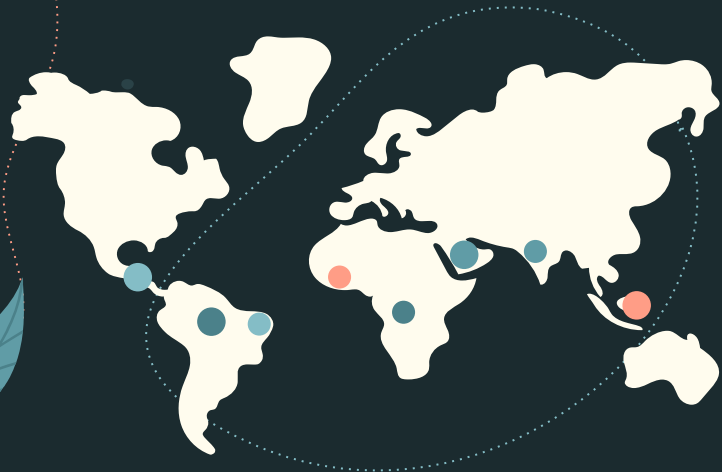
to maternal anemia and poor nutrition it can develop hypoglycemia (low blood glucose levels) which can cause brain damage

LBW can greatly increase the chance of infant mortality and poor growth.

Anemia is also another effect of malaria in children under 5 years and can cause detrimental effect on the child's health



Areas with more cases of malaria with malnutrition



Four African countries accounted for just over half of all malaria and malnutrition cases worldwide:

Nigeria (31.9%), the Democratic Republic of the Congo (13.2%), United Republic of Tanzania (4.1%) and Mozambique (3.8%).



Treatment

A severely malnourished child with a positive malaria laboratory test must be treated. Clinical signs and symptoms are often absent.

Treatment follows the same guidelines as for other patients

The other Artemisinin-based combination therapies (ACTs) options can be used below 5 kg bodyweight..

- Treat and prevent hypo-glycaemia with glucose immediately.
- Treat/prevent dehydration....
- Correct electrolyte imbalance....
- Treat/prevent infection....
- Correct micronutrient deficiencies...



Prevention

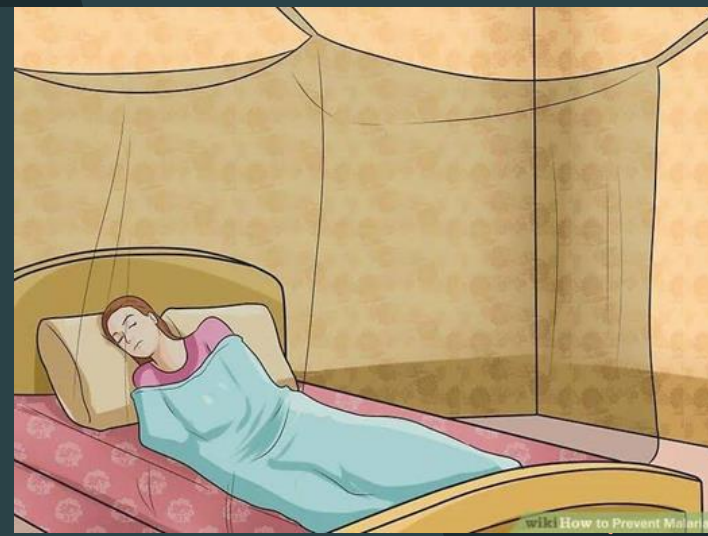
Chemoprophylaxis.

- The use of mosquito netting, window screens, protective clothing, and insect repellents.
- Many insecticide are no longer effective.
- mosquitoes feed from dusk to dawn, so dawn, Protection is particularly important during the night.





- Drainage of stagnant water in swamps reduces the breeding areas.
- There is no vaccine.



To summaries

- Malaria is one of the most common infectious disease that
 - caused by plasmodium
 - Malnutrition is The inadequate consumption of protein, energy minerals and vitamin
 - Most common area of malaria and malnutrition is Congo Mozambique and other African countries
- The prevention of malaria Drainage of stagnant water in swamps reduces the breeding areas
- There is no vaccine .



References

- Bauman, robert W., Elizabeth machunis- masuoka, and cecily D. Cosby. Microbiology: with diseases by body system. 4th ed. Benjamin cummings, 2012.
- • Levinson, warren. Review of medical microbiology and immunology. 23rd ed. The mcgraw-hill companies, 2008
- Fact sheet about malaria [Internet]. Who.int. 2022 [cited 15 May 2022]: <https://www.who.int/news-room/fact-sheets/detail/malaria>
- malnutrition? W, malnutrition? W, malnutrition? W. Malnutrition [Internet]. Who.int. 2022 [cited 15 May 2022].
<https://www.who.int/news-room/questions-and-answers/item/malnutrition>.
- https://www.paho.org/hq/dmdocuments/2011/WHO_Treatment_Guidelines_Ou
[Internet]. Paho.org. 2022 [cited 15 May 2022]
https://www.paho.org/hq/dmdocuments/2011/WHO_Treatment_Guidelines_Ou
[mense.pdf](https://www.paho.org/hq/dmdocuments/2011/WHO_Treatment_Guidelines_Ou)

THANK **Y**OU!

