# **Research Article**

# The comparison on the Malaria infection between children 0-5 and more than 5 years old in South Sudan, between 2009- May 2015

Christo Simon Angelo Jada<sup>1</sup>, Wang Bei<sup>1</sup>, Wang Lina<sup>1</sup>

Jada CSA, Bei W, Lina W. The comparison on the Malaria infection between children 0-5 and more than 5 years old in South Sudan, between 2009- May 2015. Curr Res Integr Med 2017;2 (3):28-29.

Malaria is a parasitic disease transmitted by Anopheles mosquitoes. It is considered as a leading cause of mortality among children in sub-Saharan Africa and especially in South Sudan. A valid quantitative estimates of malaria mortality worldwide are useful for monitoring the impact of implementing

the prevention and the control of the activities, targeting interventions, and advocacy Most at risk of getting malaria are pregnant women, children under five, HIV positive persons and those who come from areas where the incidence of malaria is very low, for example Nairobi or Khartoum. In couples of years, malaria accounted for 7% of deaths in children aged less than 5 years globally, and 17% of these deaths in sub-Saharan Africa including South Sudan, where it was considered the leading cause of death in Africa.

Key Words: Malaria, Sudan, Swampy lowlands

Malaria is a parasitic disease transmitted by Anopheles mosquitoes (1). And it considered as a leading cause of mortality among children in sub-Saharan Africa and especially in South Sudan. Valid quantitative estimates of malaria mortality worldwide are useful for monitoring the impact of implementing the prevention and the control of the activities, targeting interventions, and advocacy (2).

Most at risk of getting malaria are pregnant women, children under five, HIV positive persons and those who come from areas where the incidence of malaria is very low, for example Nairobi or Khartoum (3).

South Sudan is plagued by similar problems in the public provision of health, and relies heavily on NGOs for malaria intervention execution and the private sector for the provision of malaria control commodities. There is a growing network of Community Drug Distributors (CDDs) being established to carry out Integrated Community Case Management for malaria as well as pneumonia and diarrhea, with a focus on reaching children under five (4).

It is a common and life-threatening disease; it threats Children and pregnant woman seriously specially in many tropical and subtropical areas. Had been estimated that, there are currently over 100 countries and territories where there is a risk of malaria transmission, and these are visited by more than 125 million international travelers every year (5).

It considered primarily that, malaria is an infection of the red blood cells, because usually related or focusing on blood transmission causing recurring fever of sudden onset. Malaria caused by P. falciparum is life threatening and can cause multiple organ damage, coma and death (2).

The prospects for successful project on malaria control and prevention are huge in South Sudan. Nevertheless, strengthening and coordination, infrastructure and human resource and capacity building, monitoring and evaluation are required for the successful of project (6).

## Burden of Malaria

The importance of providing strong evidence based estimates of the mortality began with the Global Burden of Disease (7).

In couples of years, malaria accounted for 7% of deaths in children aged less than 5 years globally, and 17% of these deaths in sub-Saharan Africa including South Sudan, where it was considered the leading cause of death in Africa. As a result of the large decreases in malaria mortality in children aged less than 5 years, malaria accounted for just 5% of less than five years deaths globally in 2015 which shows improvement in terms of preventing and monitoring the malaria, and 10% of Children less than five deaths in sub-Saharan Africa, where it is now the fourth highest cause of death (8).

Uncomplicated malaria may degenerate in Children less than five-year-old patients if not properly managed (9).

Without confirmation or extensive laboratory testing, most symptoms of malaria

are indistinguishable from other major causes of morbidity and mortality in young children, because there are similarities in other infectious (10).

#### Transmission of malaria

Malaria is transmitted throughout the year in the swampy lowlands. In all other areas incidence of Malaria increases during rainy or flooding seasons as well as in association with movement of Populations with little immunity to endemic areas when outbreaks occur or the disease reaches epidemic proportion (11).

It is transmitted by an infected female Anopheles mosquito, and occasionally or rarely through blood transfusion. The Anopheles from gambiae family is the major vector system in Africa regions (12).

The appearance of drug-resistant strain is considered to be the primary factor that contributed to the resurgence of malaria, plus the spread of insecticide resistant of mosquito and lack of malaria vaccines (13).

## Malaria prevention

Every country might have its own projects for preventing the re-emerging of malaria incidences and prevalence (14).

The best and the effective management of malaria in Children under-five years require early diagnosis and prompt action (15).

There is possibility of developing of using molecular genetics to manipulate the genomes of insects, larva and vectors such that they are no longer capable of acting as a vector.

The aim of this developing molecular is to replace natural vector populations of mosquitoes with populations which are unable to support complete development of the malaria parasite (16).

## **METHODS**

I used data from the National Ministry of Health office of Malaria survey and control. I analysed the trends in Malaria cases and Deaths in Children under five years and above five years old, from the year 2009 up to the Month of May 2015, using the examined cases detection and deaths from the Malaria under five years, and Malaria older the five years old, by the NGOs and the partnership of Malaria Control.

## RESULTS

After passing through the data, we found that the cases from the trend increases from the year 2012 to the month of May 2015, but the cases continuously increases every year from the months early April and declining in late October, in the year 2012 it declined from October to the normal and in 2013 raised from May as usual and continued up to September and started declining, and in 2014 raised from May to August and then declined, and in 2015 increased up to May as in the previous year as shown in the (Figures 1 and 2).

<sup>1</sup>Southeast University Nanjing, China

Correspondence: Christo Simon Angelo Jada, 2 Sipailou, Xuanwu Qu, Nanjing Shi, Jiangsu Sheng, China, 210018, E-mail - monchris5@gmail.com Received: October 31, 2016, Accepted: June 27, 2017, Published: July 03, 2017



This open-access article is distributed under the terms of the Creative Commons Attribution Non-Commercial License (CC BY-NC) (http://creativecommons.org/licenses/by-nc/4.0/), which permits reuse, distribution and reproduction of the article, provided that the original work is properly cited and the reuse is restricted to noncommercial purposes. For commercial reuse, contact reprints@pulsus.com

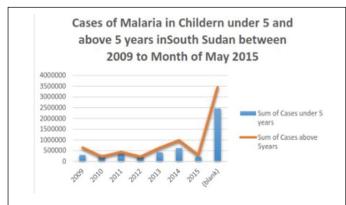


Figure 1) Distribution of cases of malaria in children under 5 and above 5 from 2009 to 2015

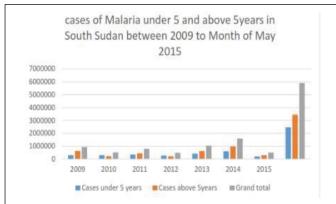


Figure 2) Distribution of cases of malaria in children under 5 and above 5 along with total number of cases from 2009 to 2015

## The partners of malaria control

Mainly the partners of the Malaria control are NGOs, there are thirteen NGOs working together with the Ministry of Health to eradicate the Malaria from the South Sudan and they are supporting the Ministry of Health with a Malaria data around South Sudan. The NGOs that are helping South Sudan are having enough qualified staff from the fields of Health Sciences, Physicians, Medical assistants, Nurses and Public Health Officers; they are working together in a community to reduce to burden of Malaria cases and deaths in children under five years and children above five years old.

The Organizations that are working together with a National Malaria Program are:

1.Malaria Consortium (MC).

2.(UNOCHA).

3.USAID.

4.PSL

5.UNDP.

6.MSF.IMA.

7. Save the Children.

8.Goal.

9.Barack.

10.Catholic Diocese.

11. World Bank.

## DISCUSSION

I realized that between years 2009 to the May of 2015, there is an increase in Malaria cases and deaths among the Children under five years, and above five years old, the high cases recorded among the Children above five while the deaths recorded to be high among the children less five years old. Malaria uncomplicated clinically diagnosed under five years is estimated about 40,000 cases and the confirmed was 25,000 cases, and the severe was recorded to be 5,000 cases. In 2012, there was a sudden increase in the cases of the children under five which was the higher then the children above five years.

Uncomplicated clinically diagnosed among the Children above five years old

was about 98,000 cases higher than in Children under five years old and the severe in Children above five years was about 10,000 cases. Malaria rate under 5 five years is stable and is at the rate of 11%, while uncomplicated confirmed rate in children is estimated about 39% and the curative malaria under five years is getting higher from 39% up to 58%, and uncomplicated clinically diagnosed rate in children is decrease from 62% to 55%. Though there is an increase in the trend, still far less than expected cases.

#### Study limitations

- Focus was on Malaria among the Children above 5 years and less than five 5 years.
- 2. The data from a secondary source.

## CONCLUSION

There are increases of cases each year comparing the studies from 2012 up to mid of 2015, and some areas has showed improvement, as I mentioned Warap State and Central equatoria in 2013 and in 2014, Central Equatoria has showed great different, though it is a crowed area. Also shows the best facilities that has been used to eradicate the malaria, and also reflecting the qualification of NGOs partners, how best their staff are, in the area of malaria control.

## REFERENCES

- Traoré C. Epidemiology of malaria in a holoendemic area of rural Burkina Faso. Thesis, 2004.
- 2. Lukudu DL. Pulmonary tuberculosis case detection in South Sudan. South Sudan Medical Journal, 2012; 5(4); 79-84.
- Munthali AL. Managing malaria in under-five children in a rural Malawian village. Nordic Journal of African Studies, 2005; 14(2), 127-146.
- UNICEF. Promoting rational use of drugs and correct case management in basic health services. The Prescriber. 2000 (18).
- Ali OYM. Assessment of malaria prevention and control methods in shendi locality, Sudan 2015. International Journal of Research -GRANTHAALAYAH. 2016;4(6); 150-156.
- Pasquale H, Jarvese M, Julla A, et al. Malaria control in South Sudan, 2006–2013: strategies, progress and challenges. Malaria Journal; 2013; 12:374.
- Snow RW, Craig, MH, Newton CRJC, et al. The public health burden
  of Plasmodium falciparum malaria in Africa. Working Paper 11.
  Disease Control Priorities Project, Bethesda, Maryland, USA: Fogarty
  International Center, National Institutes of Health. 2003.
- World Health Organization. Malaria rapid diagnostic test performance: results of WHO product testing of malaria RDTs: round 6 (2014-2015). 2015.
- Oluwasogo AO, Henry OS, Abdulrasheed AA, et al. Assessment of Mother's Knowledge and Attitude towards Malaria Management among Under Five (5) Years Children in Okemesi-Ekiti, Ekiti-West Local Government, Ekiti State Estrjkl. Malaria Contr Elimination 5:142. 2016.
- 10. Snow RW. Sixty years trying to define the malaria burden in Africa: have we made any progress? BMC medicine. 2014; 12; 227.
- 11. World Health Organization. Guidelines on prevention of the reintroduction of malaria (No. 34). World Health Organization. 2007.
- Breman JG, Mills A, Snow RW. Conquering malaria. Disease control priorities in developing countries. 2006.
- Saleh AMA, Adam SM, Ibrahim AM, Malaria: A general minireview with reference to Egypt. Journal of the Egyptian Society of Parasitology. 2016; 46(1), 35-48.
- Guidelines on prevention of the reintroduction of malaria (No. 34).
   World Health Organization. 2007
- Kassile T. Prevention and management of malaria in under-five children in Tanzania: A review. Tanzania journal of health research, 2012;14(3); 226-235.
- Phillips RS. Current status of malaria and potential for control. Clinical Microbiology Reviews 2001;14(1), 208-226.