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PREVENTION OF LYMPHATIC FILARIASIS THROUGH MASS DRUG ADMINISTRATION PROGRAM: MAJOR HINDRANCES TO ITS EFFECTIVENESS IN ENDEMIC AREAS IN THE WESTERN REGION OF GHANA

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ABSTRACT — Lymphatic Filariasis is one of the five main neglected diseases that affect poor communities in Ghana and actually the only neglected disease that is still endemic in certain areas (hotspots) in the western region of Ghana after many years. Mass drug administration with ivermectin and albendazole has been the main preventive means to eradicate the disease. This study is focused on identifying the reasons for the endemicity and more especially lapses in the mass drug administration that affect the effectiveness of the program. The Ahanta west municipal assembly was the focus of the study of which several lapses with regards to the mass drug administration were identified and recommendations made for correcting these lapses that will make the program effective thereby helping in reducing if not eradicating the disease in this area.

KEYWORDS — Mass drug administration, hotspots, Lymphatic filariasis, Ivermectin, Albendazole.

INTRODUCTION

Lymphatic filariasis is a debilitating disease caused by the filarial worm *Wuchereria bancrofti*. It is earmarked for elimination by the year 2020 through the Global Program for the Elimination of LF (Lymphatic Filariasis). Mass drug administration has been on-going since the year 2000 as a way of preventing and controlling the disease. Lymphatic Filariasis has been in existence in Ghana for many years with many projects taking place to help eradicate them but till now there are still places endemic areas in Ghana.

The major focus of this work is to find ways of making mass drug administration more effective in endemic areas in the western region. Mass Drug Administration with Ivermectin and Albendazole for treatment of LF in Ghana started in 2000 with 5 districts and gradually scaled up to include all LF endemic districts in 2004. Ninety-eight out of 216 districts in Ghana were identified as endemic for LF in 8 out of the 10 regions in the country. Significant progress has been

made so far with LF treatment; a total of 83 out of 98 endemic districts would have stopped treatment by the end of 2017 leaving 15 districts expected to continue treatment in 2018. There are currently three districts in the western region endemic to lymphatic filariasis.

There are three different filarial species that can cause lymphatic filariasis in humans but in Ghana it is caused mainly by *Wuchereria bancrofti*.

The infection spreads from person to person by mosquito bites. The adult worm lives in the human lymph vessels, mates, and produces millions of microscopic worms, also known as microfilariae. Microfilariae grow and develop in the mosquito. When the mosquito bites another person, the larval worms pass from the mosquito into the human skin, and travel to the lymph vessels. They grow into adult worms, a process that takes 6 months or more. An adult worm lives for about 5–7 years. The adult worms mate and release millions of microfilariae into the blood. People with microfilariae in their blood can serve as a source of infection to others. In Ghana, the most common vector is Anopheles mosquito. Many mosquito bites over several months to years are needed to get lymphatic filariasis which is possible in areas of poor sanitation which breeds mosquitoes.

Purpose of the study

The aim of this paper is to find out the reasons behind the endemicity despite the various efforts with the use of mass drug administration in these areas of the western region of Ghana.

MATERIAL AND METHOD

Analysis of data from District health directorate (Ahanta west district) 2014–2018, Data from End Neglected tropical diseases in Africa, annual work plan October 2017–september 2018. World Health organization (annual report 2000–2017), Ministry of health Ghana annual report 1998–2017, Ghana neglected tropical diseases program (5-year strategic plan — 2013–2017).

RESULT AND DISCUSSION

Analysis index of main neglected tropical diseases in Ghana which include the following:

Agona sub district:

year	Total population	Total number treated	Total population coverage-%	Non-eligible	refused	Absent
2014	27299	21791	79.82	610	367	2646
2015	26088	20814	79.88%	324	552	2016
2016	24441	21060	86,2	1189	738	1430
2017	30209	25858	85,6	2278	622	1451

** Non eligible comprises of 1. Severely sick 2. Pregnant women 3. under height 4. Breast feeding mothers and children under 1 week.*

The total number of people who refused and absent were 3013 representing 11% of the population in 2014, if 2015 it was 2568 representing 9,8% of the population, in 2016, 238 representing 4,8% of the population. In 2017 it was 6,9% of the population, that is 2073. This indicates how part of the population miss out on the mass drug administration program. The absentees were due to the timing of the administration of the program, the education before the program and the value the people place on the program. The refusal mostly is due to religious belief and myth about the drug of which the religious leaders should be educated and used to inform their people. These will ensure total coverage which will lead to prevention of these diseases and reduce the endemicity.

CONCLUSION

To ensure the effectiveness of the mass drug administration program in these endemic areas and thereby eradicating the disease, the anomalies specified above should be corrected.

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