SCHOOL OF PUBLIC HEALTH
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BARRIERS TO HIGH COVERAGE DURING MASS DRUG ADMINISTRATION FOR THE CONTROL OF LYMPHATIC FILARIASIS IN AYAWASO SUB-METRO IN THE GREATER ACCRA REGION, GHANA

BY
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DECLARATION

I Pearl Mina Akoto-Bamfo, declare that, with the exception of the references to other people's works, which have been duly acknowledged, this dissertation is the result of my own independent work. I further declare that, this dissertation, either in whole or partially have not been submitted for the award of any degree in any institution.

Signature……. Date……..…..

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(Student)

Signature…… Date……..……

Dr. Phyllis Dako-Gyeke

(Academic Supervisor)

DEDICATION

First of all, I wish to express my profound gratitude to God Almighty for His grace, mercy, strength and favour for bringing me this far in my study.

I dedicate this work to my dearest, caring and loving husband Mr Albert Adjei Akoto-Bamfo, of Trust Hospital, Pharmacy Department Osu, whose able support, encouragement and advice that has made this work a reality. Also, to my wonderful and considerate children; Solomon Afriyie Akoto-Bamfo of KNUST, Tracy Maame Abenaa Amponsaah Akoto-Bamfo of KNUST, Julian Osei-Kyere Akoto-Bamfo of New Juabeng Senior High School and Caleb Nana Yaw Akoto-Bamfo of Cosmos Preparatory and Junior High School.

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LIST OF ACRONYMS AND MEANING

DALYs	Disability Adjusted Life Years
FGD	Focus Group Discussion
GHS	Ghana Health Service
GPELF	Global Programme for the Elimination of Lymphatic Filariasis
IDI	In-Depth Interview
IEC	Information Education Communication
ITN	Insecticide Treated Net
KII	Key Informant Interview
LF	Lymphatic Filariasis
MDA	Mass Drug Administration
Mf	Microfilaria
MOH	Ministry of Health
NTD	Neglected Tropical Disease
PI	Principal Investigator
RCH	Reproductive Child Health
WHA	World Health Assembly
WHO	World Health Organization

ABSTRACT

Background: Lymphatic Filariasis (LF) is one of the 17 Worlds most Neglected Tropical Diseases (NTDs) which are predominantly found in most marginalized and low income communities. The World Health Organization (WHO) with World Health Assembly (WHA) in collaboration with Ghana Health Service had instituted an annual MDA to totally eliminate LF by the year 2020 from all endemic communities. Awareness and knowledge about LF has been a major challenge for people not patronizing the exercise. This study was meant to find out various barriers to high coverage during MDA for LF in the Nima-Maamobi Ayawaso District.

Methods: This study used qualitative approaches including focus group discussions, in-depth interviews and key informant interviews. A total of 65 participants including community members, community volunteers and health providers were involved in the study. Various themes on factors causing barriers to high coverage in an urban community were explored. All interviews were audio taped, transcribed and used to generate larger themes.

Results: Data analysis revealed that, several participants interviewed claimed they were aware of the disease but knowledge inadequate due to lack of publicity on MDA for LF control exercise. Some participants perceived they were not susceptible because is the disease of the poor and basically be found in rural and not urban communities. Fear of adverse drug reaction impacted negatively on the people's acceptance of the exercise. Poor motivation to volunteers also added to the barriers.

Conclusion: The findings displayed inadequate awareness and knowledge about LF. There is the need to re-strategize and create adequate platforms like social media, health-walk documentaries, posters, television, radio advertisement and effective IECs to promote the MDA exercise.

CHAPTER ONE

1.0 INTRODUCTION

1.1Background

Lymphatic Filariasis (LF) commonly known as elephantiasis is a painful and profoundly disfiguring disease that has been reported to have a major social and economic impact in endemic continents such as Asia, Africa, the Western Pacific and other parts of the Americas (Ottesen, 2000). The World Health Organization has estimated that over a billion people live in areas where they are at risk of the infection due to continuous exposure to infected mosquito vectors (WHO, 2010). It is one of the leading causes of permanent and long-term disability in the world and is endemic in about 80 countries worldwide (WHO, 1992). The World Health Organization estimated that, there are about one billion people at risk in about 80 countries worldwide. One-third of those infected live in India, one third in Africa and the remainder in South-Asia, the Pacific and the Americas (WHO, 2006).

Relatively, Africa represents about 30% of the universal disease burden, with about 4059 million people been in danger of infection in 39 of Africa's 46 member countries (WHO, 2010) In West Africa, the distribution of the disease is focal with high prevalence among the poor and least developed areas. In Ghana, LF has been reported to be endemic in 74 administrative districts located in eight of the 10 regions of the country (Offei & Anto, 2014). The first population-based survey of elephantiasis of the leg in northern Ghana which was carried out in 1990 showed that out of 5,846 compounds visited by trained field workers, 735 (12.6%) of the compounds had at least one resident compound member with visible or reported elephantiasis of the leg (Gyapong, 2005). Generally, it has been estimated that the prevalence of LF ranges between 3% - 12% in the southern Ghana and about 30% in the

northern Ghana (Noguchi Memorial Institute for Medical Research & Japan International Cooperation Agency, 2004).

In 1993, an independent international task force for disease eradication identified LF as one of the only six eliminable infectious diseases in the world thereby passing a resolution to the effect that countries must work towards eliminating LF (Ottesen, 2008). Following the adoption of this resolution by the World Health Assembly (WHA), World Health Organisation (W.H.O) with support from organizations and donor countries began putting together a coalition to eliminate the disease. In this year, the coalition for the elimination of LF was given a powerful boost when Merck and Co., Inc. assured to increase its Mectizan Donation Programme for onchocerciasis to cover the treatment of LF in Africa where the two diseases occur together (countries with LF and onchocerciasis co-endemicity) (Bockarie & Deb, 2010).

In the year 2000, the WHO African Region launched the Programme for Elimination of Lymphatic Filariasis, and conducted Mass Drug Administration (MDA) in Ghana, Nigeria, Togo and the United Republic of Tanzania. A regional programme review group was established in 2001 to meet annually to review national plans of action and national applications for antifilarial medicines, and to provide technical advice to programme managers (WHO, 2010). Countries were entreated to map out areas within the country where these two infections (lymphatic filariasis and onchocerciasis) are endemic and since 2009 Ghana has completed the mapping out and had rolled out the Mass Drug Administration (MDA). The MDA is a strategy that aims at reducing microfilarial (mf) load in endemic populations. It is expected that the reduction in microfilarial load will lead to a simultaneous reduction of transmission, and that the MDAs thereby will prevent new infections from

establishing. Therefore, with time the already established infections will also die out and LF will eventually be eliminated (Simonsen et al., 2013)

Following the launching of Global Programme for Eliminating Lymphatic Filariasis (GPELF) In the year 2000 and the targeting of LF for global elimination, most endemic countries have established national control programmes and many are in the process of implementing annual MDAs with (albendazole and ivermectin) the recommended two-drug (combinations) (WHO, 2013). Globally, there has been a reduction in the number of new cases (WHO, 2010). In India, the adoption of MDA has also been reported to have reduced the burden of LF (Das, Ramaiah, Augustin, & Kumar, 2001; Ramaiah et al., 2000) whilst in Kenya, Meyrowitsch & Simonsen (1998) have also reported positive impact of MDA. Studies in Ghana have also showed that, mass treatment with a single dose of diethylcarbamazine, ivermectin, or a combination of these drugs leads to a strong reduction in the prevalence and intensity of MF (Horton et al., 2000). According to WHO (2005), an MDA programme which has been in operation for about 4- 6 years with a high coverage of 80% is expected to reach an elimination stage of approximately 1% disease prevalence. With the achievements of MDA in reducing the prevalence and intensity of Microfilariae MF across the world, compliance and adherence to MDA remains an important strategy to the global efforts to eliminate LF.

1.2 Problem Statement

Lymphatic Filariasis has been earmarked for elimination globally by the year 2020 (WHO, 2010). Despite the efforts by countries to eliminate LF, it still remains a key problem in endemic communities with several devastating effects. Records available indicate that about 41 million people worldwide have visible signs of the infections, a further 76 million have

hidden infections, most often with microfilariae in their blood and hidden internal damage to their lymphatic and renal systems whilst about 44 million infected patients have recurrent infections and abnormalities of renal functions (Bockarie & Molyneux, 2009; Michael, Bundy, & Grenfell, 1996). In sub-Saharan Africa, it is estimated that about 512 million people are at risk of the infection and about 28 million are already infected. Of this number, there are 4.6 million cases of lymphoedema and over 10 million cases of hydrocele. These represent about 40% of the global burden of the disease and the world's second leading cause of permanent long-term disability (Michael, Bundy & Grenfell, 1996).

The World Bank development report indicates that the global burden for the disease was estimated at 850,000 Disability Adjusted Life Years (DALY's) lost which represent only 0.23% of the global burden (World Bank, 1993). However, a high coverage of MDA between 65-85% in endemic areas that has been sustained for consecutive five years is the prerequisite for the interruption of transmission and elimination of Filariasis (WHO, 2010). To reduce the burden Ghana established the Ghana Filariasis Elimination Programme to champion MDA and monitor progress towards elimination of LF which has been in operation since the year 2000. In 2008, MDA were undertaken in all 82 endemic districts. However, the coverage varied across the country with the Greater Accra recording the least coverage of 52% (GLFCP, 2008). This implies that gains made in the other region may be diluted by the low coverage in the Greater Accra region thereby serving as a drawback to eliminating FL by 2020. Several factors could be accountable for this low coverage. Earlier, a similar study on MDA for malaria control in some Island such as Misima and Papua New Guinea has reported that misconception with MDA within target population contributed to low compliance and coverage (Kaneko, 2010). This study is

therefore designed to provide evidence on ways to increase coverage during MDA for the control of LF – comment on the problem (LF) in Accra

1.3 Study Objectives

1.3.1 General Objective

To investigate barriers that hinder high coverage during Mass Drug Administration for Lymphatic Filariasis control programme in Nima-Maamobi in the Ayawaso sub-metropolitan area in the Greater Accra region.

1.3.2 Specific Objectives

The specific objectives of this study will be:

1. To identify Community-based factors relating to low coverage during Mass Drug Administration for Lymphatic Filariasis control programme.
2. To examine drug related factors associated with low coverage during Mass Drug Administration for Lymphatic Filariasis control programme.
3. To identify health sector related factors associated with low coverage during Mass Drug Administration for Lymphatic Filariasis control programme.

1.3.3 Research Questions

The study addressed these research questions.

1. Why community-based (coverage) of Mass Drug Administration for Lymphatic Filariasis not been (achieved)?
2. How can drug related factors associated with coverage of Mass Drug Administration for Lymphatic Filariasis control be improved?

3. How do health sector related issues affect community coverage of Mass Drug Administration for Lymphatic Filariasis control?

1.4 Justification

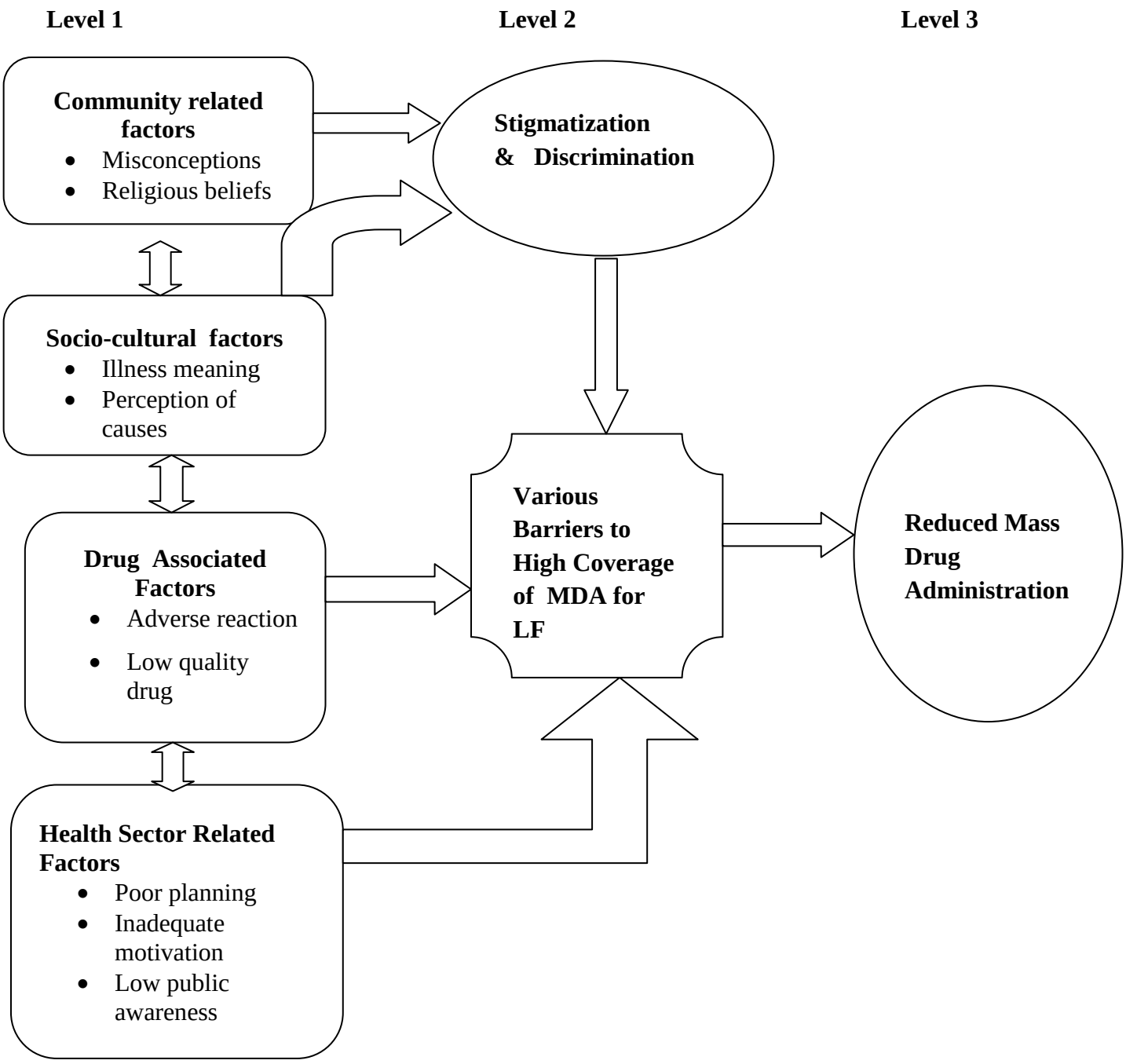
LF is a vector borne infection which is reported to be more prevalent in rural areas. However, with recent trends in migration from rural to urban areas, there is the need for programmes to target both urban and rural areas. Although LF is not fatal, the chronic symptoms often afflict individuals in their most reproductive stage of life and therefore impose a significant social and economic burden on society. Lost productivity due to lympoedema and genital damage caused by LF costs millions of dollars each year (WHO, 2010). However, this can be prevented through MDA to target populations in endemic areas and also by ensuring adherence to the regimen. In the year 2008, MDA exercises in the re-demarcated district of 82 endemic districts revealed a national coverage of 69.8% with Greater Accra Region (52%) emerging as the only region recording a coverage less than 60% Ghana Filariasis Control Programme, (GFCP, 2008).

So, whereas all regions are able to meet the 60-80% coverage required for elimination, the Greater Accra is not meeting this target posing a challenge to efforts to eliminate LF by 2020. This study is therefore designed to identify barriers to the high coverage during MDA for LF. Identifying these barriers were relevant to increase coverage to enable Ghana achieve the target of elimination of LF by 2020. Since, the inception of MDA for the control of LF, little is known on the barriers to high coverage. Therefore, this study was aimed at laying the grounds for future research.

1.5 Conceptual Framework

The study will be guided by three level conceptual frameworks, which summarizes relationships between the various variables in the study (figure 1). From figure 1, four interrelated factors acted independently or interacted and emerged as barriers to high coverage. District or Community-based related factors such as misconceptions and religious beliefs led to stigmatization of people with the disease. Socio-cultural factors also lead to stigmatization of the disease. Additionally, Drug related factors also became a barrier to high coverage. These drug related factors led to adverse reaction from previous MDA exercises. Health system related factors such as attitude of the health workers also became a barrier to high coverage. All these barriers led to low coverage and non compliance during MDA exercise. There was interactive relationship between community related factors to either increase or decrease the level of stigma related to LF. In the same way, drug related factors and health related factors also interacted to either inhibit high MDA coverage add on.

1.5.1 Figure 1: Conceptual framework



CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 The Epidemiology of Lymphatic Filariasis

This chapter presents a review of related literature on the concepts and other relevant indicators used in the study. There are seven thematic areas in this review, Section one presents the general transmission of lymphatic filariasis. Section two discusses control of lymphatic filariasis. Section three presents the socio-cultural factors affecting LF control. Section four discusses the mass drug administration for controlling of LF. Section five focuses on drug associated issues. While section six concentrates on health sector related factors. Finally, in the summary all key issues in this chapter have been summed up.

Lymphatic Filariasis is caused by long thin filarial worms (Ramaiah, 2003) *W. bancrofti, B. malayi and B. timori* that live in lymph channels in the human body. According to W.H.O report, in most endemic countries, transmission is done at night by female Culex Anopheline Mosquitoes. This occurs when a mosquito is taking a blood meal from an individual with microfilaria worm produced by paired adult worms (Fischer, et al, W.H.O. 1996).

In most endemic countries, LF is transmitted at night by the female Culex and Anopheline mosquitoes through the process of taking a blood meal from individuals infected with microfilaria (mf) which are millions of larval forms produced by paired adult worms (Fischer, et al; WHO, 1996). The thread-like worms of genus *Wuchereria* and *Brugia*, also known as filariae during the process of infection lodges in the lymphatic system, blocks the vessels which maintain the delicate fluid that balances between the tissues and blood. These are essential component of the body's immune system. As parasite lives in the lump nodes, it

can damage and block the lymph channels thereby preventing the proper flow of lymph fluid through the body.

The accumulation of lymph fluids leads to the chronic manifestation of LF in the extremities of the body namely elephantiasis of the upper and lower limbs, which affects about 4.6 million people in Africa (Michael *et al.,* 1996). Some manifestation of LF begins with acute attacks (ADL) which are often characterised by constitutional signs and symptoms such as fever, general malaise, pain, tenderness and swelling (WHO, 2000).

Chyluria, the passing of milky-coloured urine, is caused by leakage of lymph into the urinary tract. This is seen from time to time with high-fat diet and vigorous exercise. Lymphatic filariasis can present with rheumatic features and mono-arthritis of a knee or ankle joint that resolves after antifilarial treatment and is common in filarial-endemic areas, especially in children (Melrose & Goldsmid, 2005).

The process continues when the worms get located in some parts of the body. It is explained that the thread-like worms of genus *Wuchereria* and *Brugia*, which are known as filariae could lodge in the lymphatic system, and create a network of nodes and vessels that maintain the delicate fluid balance between the tissues and blood. What happens is that, as the parasite lives in the lump nodes, it could damage and block the lymph channels, thereby preventing the proper flow of lymph fluid through the body (WHO, 1996).

Michael *et al.,* (1996), indicated that the accumulation of lymph fluids leads to the chronic manifestation of LF in the extremities of the body namely; elephantiasis of the upper and

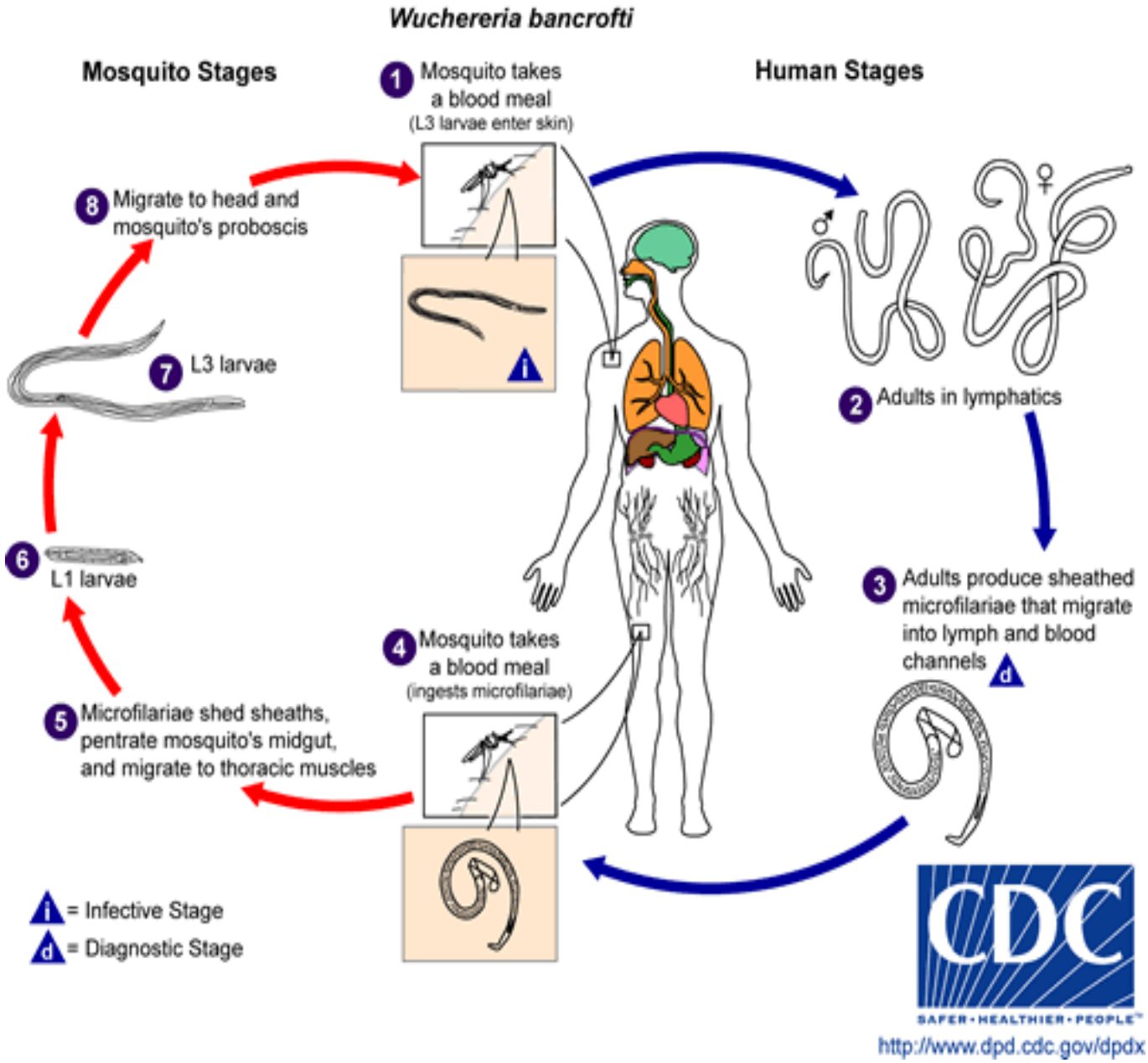
lower limbs and this affects about 4.6 million people in Africa. Furthermore, the WHO, Addiss & Brady also reported that some manifestation of LF begins with acute attack which are often characterised by constitutional signs and symptoms such as fever, general malaise, pain, tenderness and swelling (Addiss & Brady, 2007; WHO, 2000).

Additionally, researchers Melrose and Goldsmid also explain that in other instances, there is the passing of Chyluria, which is milky-coloured urine, which is caused by leakage of lymph into the urinary tract. These analysts continue to give details that, this is seen from time to time after a high-fat diet and after any vigorous physical exercises. Moreover, the analysts argue that although the symptoms may vary, usually, lymphatic filariasis can present with rheumatic features and mono-arthritis of a knee or ankle joint that resolves after antifilarial treatment and is commonly in filarial-endemic areas, especially in children (Melrose & Goldsmid, 2005).

In some parts of the world such as India it was revealed that, out of the 289 districts surveyed, 257 symptoms were detected in 1995. Presently, there may be 27.09 million micro-filaraemics representing 20.83 million cases of symptoms of lymphatic filariasis and closely to about 429.32 million people are at risk of getting the disease (Dreyer, 2000). Africa accounts for approximately 30% of the global burden of the disease, with 4,059 million people at risk of infection in 39 of its 46 member countries (WHO, 2000a). In West Africa, the distribution of the disease is focal with high prevalence among the poor and least developed areas.

In Ghana, LF has been reported to be endemic in 74 administrative districts located in eight of the 10 regions of the country (Offei & Anto, 2014). In Ghana, the first population-based survey of elephantiasis of the leg in northern Ghana which was carried out in 1990 showed that out of 5,846 compounds visited by trained field workers, 735 (12.6%) of the compounds had at least one resident compound member with visible or reported elephantiasis of the leg (Gyapong et al 1995). However, with the introduction of the MDA for LF, the prevalence rate of the disease burden in some rural parts of Ghana is quite encouraging, whereas, in the urban communities it is rather the reverse. The reason is that, in the urban communities, there are so many factors that creates impediment against the success of the programme.

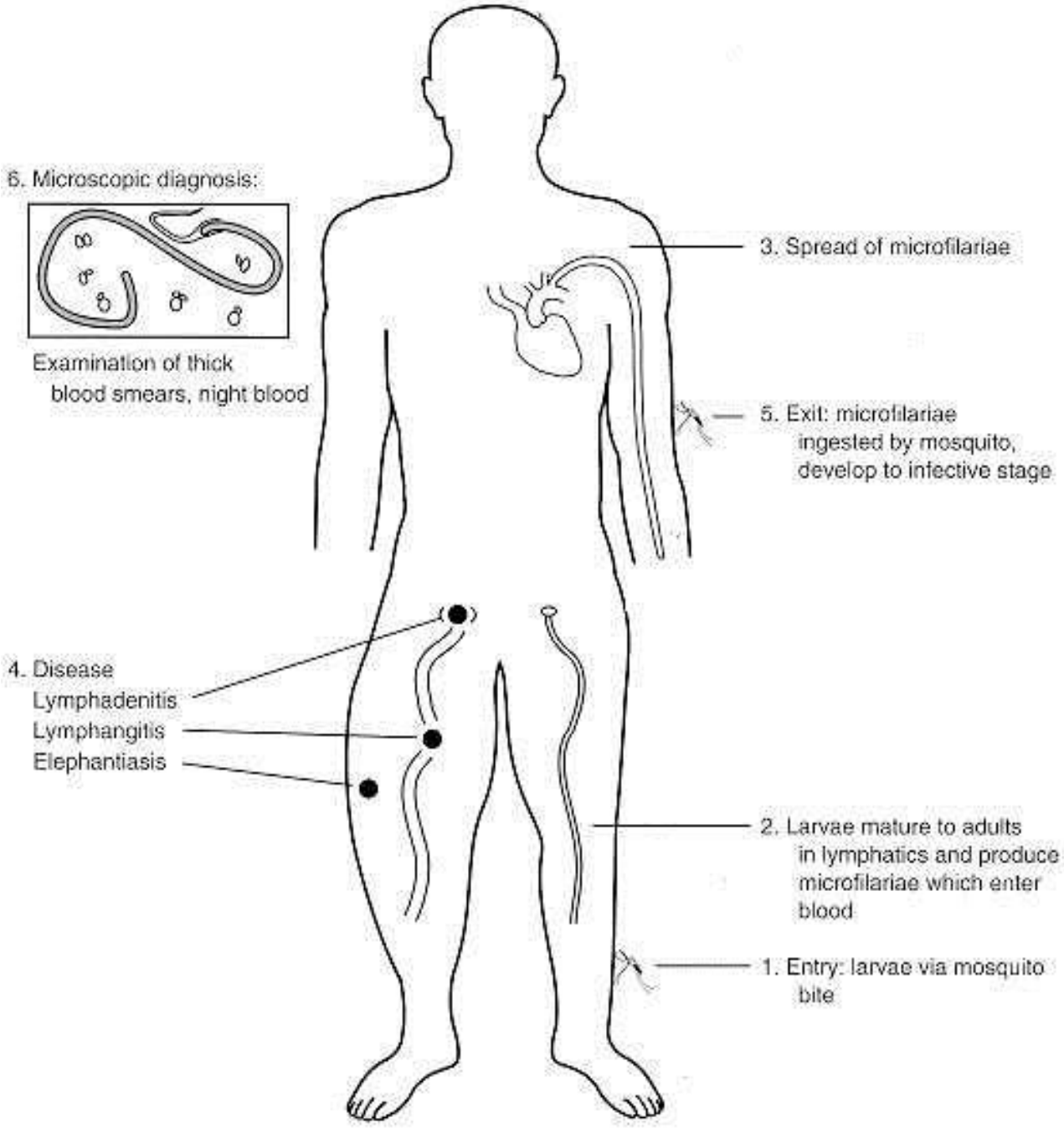
Figure 2: Wuchereria bancrofti



SOURCE: *http://www.dpd.com.gov/dpdx. April 15th, 2013.*

The above picture represent the growth cycle of the filariae worm; right from stage of mosquito bite to a full adult worm.

Figure 3: The Cycle of Microfilariae Worm in the Human Body.



SOURCE: *http://www.pathobio.sdu.edu.cn May, 20th 2014.*

The above picture represents the various stages of transformation in growth of the filariae worm

2.2 Control of Lymphatic Filariasis

Although, Lymphatic Filariasis can be a long-term or permanent disfiguring disease yet, there is a possibility to prevent the disease from spreading further among a population (Dial, Seesay, Gosling, iD'Alessandro & Baltzell, 2014). This could be achieved by the implementation of an annual drug distribution which is known as Mass Drug Administration in an either endemic or non-endemic community (Wijers, 1977; Williams & Jones, 2004). Again, if the symptoms are detected at the early stages of contraction, and the affected person happens to take the required medication (albendazole and ivermectin) then, the chances of getting cured is very high. (Lahariya, 2008; WHO, 2010)

There are strategies that are used in the control of LF. These include vector control, morbidity control and chemotherapy (Ottesen, Duke, Karam & Behbehani, 1997). However, depending on the location or endemic area, controlling LF could be difficult despite the fact that there are various strategies that could be adopted (Ottesen, Duke, Karam & Behbehani, 1997). Nonetheless, there are effective strategies that could be used to control LF Ottesen *et al*. 1997; Agrawal & Sashindran, 2006) revealed that some of these include: vector control, morbidity control and chemotherapy. Of all these control strategies, it is documented that vector control, which involves the use of strategies that reduce human vector contact, has traditionally played an important role since the infection is transmitted through the bite of a mosquito: This is achieved through residual spraying and use of bednets (WHO, 1996; Ottesen *et al*., 1997). Subsequently, the most used control measure is the morbidity control, which involves giving of treatment to people who are infected: this is done either through the giving of drug or sometimes performing surgery for those who have developed hydrocele and other complications of LF infections (WHO, 1996; Beach, 1999). Frequently

adopted is the chemotherapy control, which is the use of drugs, which is done either as a single dose or a combination: this is an important control strategy (Belizario et al., 2003). Nonetheless, when using the chemotherapy control measure, the combination therapy is often advocated (Beach, 1999; McQuillan et al.1999), confirms this through a randomised control trial where a combination of albendazole and ivermectin (used for the treatment of intestinal helminth and *Wuchereria bancrofti*) were administered to school pupils and the results showed that this combination therapy was able to reduce the prevalence of Tricuris and the prevalence of (mf) more than placebo or ivermectin alone (Beach, 1999).

2.3 Mass Drug Administration for Control of LF

Mass administration of drug in the treatment of LF is the simultaneous dispensing of treatment to an entire population in a specific geographical location regardless of the presence or absence of disease symptoms or signs and without diagnostic testing (Hotez, 2009). This process is implemented in order to enhance an effective and inclusive management of the spread of the vector borne disease (Dial, Seesay, Gosling, iD'Alessandro & Baltzell, 2014). It could be said that controlling of lymphatic filariasis in most countries of Sub-Saharan Africa is based on annual mass drug administration (Koroma et al 2013) with a combination of ivermectin and albendazole, in order to interrupt further transmission of the disease (Lahariya, 2008; WHO, 2010) and possibly eliminate the disease.

The elimination of Lymphatic Filariasis through Mass Drug Administration MDA programme was resolved in 1997 by the World Health Organisation. This MDA programme is been propagated through a large Global Programme to Eliminate Lymphatic Filariasis GPELF (Addiss & Brady 2007; Addiss, 2007; Bockarie, 2009), which was launched in 2000

by the World Health Assembly, of the World Health Organisation and whose aim is to target 80% treatment for LF elimination by the year 2020 (WHO, 2010). Therefore, GPELF provides the guidance and support for once a year drug distribution to endemic population as a means for national control programmes (Lahariya, 2008). Thus, the principal intervention measures recommended by GPELF is annual mass drug administration (Koroma et al, 2013) of single or double-dose drug combination to LF endemic communities. In most endemic countries, a combination of diethylcarbamazine (Addiss & Brady, 2007) and albendazole is used, but due to the risk of serious adverse reactions in individuals infected with *Onchocerca volvulus*, a combination of ivermectin and albendazole is used in African countries, which are co-endemic for onchocerciasis **(Simonsen et. al., 2013). For instance, in accordance with an effective implementation of the programme, it has been reported that** mass drug administration for the elimination of lymphatic filariasis programmes have yielded positive social and economic impact at low cost **i**n India (Ramiah & Das, 2004).

2.4 Socio-Cultural Factors Affecting LF control

There were limited data to explain the socio-cultural factors that influence LF occurrence and the success of programmes implemented to eliminate the disease. However, there is a growing recognition of the necessity of socio-cultural insights to support effective elimination of LF programmes across the world (Williams & Jones, 2004). During the 1970s, it was reported that 90% of men along the Tanzanian coast and 60% in the Coastal Province of Kenya were infected by lymphatic filariasis (Wijers, 1977). Because of its prevalence often in remote rural areas and in informal peri-urban and urban areas, lymphatic filariasis often described as disease of the poor. However, in recent years, the disease has steadily increased because of the expansion of slum areas and poverty, especially in Africa and the Indian sub-continent (WHO, 2000). Rural to urban migration and increasing

urbanization both of which are occurring increasingly in low income countries, facilitate the spread of lymphatic filariasis.

Despite increased awareness and availability of control measures for LF, the disease continues to infect a sizeable number of people in several endemic regions (Wijers, 1977; Williams & Jones, 2004). Research has shown that several factors influence efforts aimed at controlling LF within populations (Brooker, 2007). Among these factors are socio-cultural factors. Despite, its important role, some researchers reported that there was limited data to explain the socio-cultural factors that influence LF occurrence and the success of programmes implemented to eliminate the disease (Williams & Jones, 2004). However, the need to recognise the contribution of socio-cultural insights/factors toward supporting effective elimination of LF programmes across the world has been documented (Williams & Jones, 2004).

Furthermore, in India, East Africa, and Haiti (Wynd et al., 2009) reports that LF were given spiritual causes and young, unmarried women and women with LF have limited marriage prospects as people attributed the condition to spiritual cause and also hereditary. In Thailand and West Africa, there is a common perception that children born to LF-infected women will also inherit the genes for the disease and are therefore also vulnerable to the disease (Wynd et al., 2009). A study by Ahorlu *et al.*, (1999) in coastal Ghana has reported that many community members were able to mention the common the manifestation of LF describing them in local terminologies. However, the same study reported that communities attributed LF to spiritual and other hereditary factors. In coastal Ghana, sufferers are

subjected to teasing and considered to be unsuitable marriage partners. Those who do marry have a higher than normal divorce rate (Ahorlu *et al.,* 1999).

People will often seek health according to the aetielogical believe of the disease or infection. Given that people assign spiritual causes to this infection, they will seek spiritual assistance will not include biomedical health care providers. This will also invariably affect control programmes.

2.5.1 Perceptions associated with the disease

Aswathy and colleagues reported that LF was given spiritual explanations leading to young, unmarried women and women with LF having limited marriage prospects (Aswathy, Beteena, & Leelamoni, 2009). People attributed the condition to spiritual causes and also as a hereditary disease in countries like India, East Africa, and Haiti (Smith, 1993). In addition, there is a common perception that children born to LF-infected women will also inherit the genes from the disease and also, are therefore vulnerable to the disease in Thailand and West Africa (Wynd et al., 2009). Also, researches in contemporary times have documented spiritual explanations as part of the causes of LF, especially, in developing countries (Wynd *et al*., 2009). In addition, there is a common perception that children born to LF-infected women will also inherit the genes from the disease and also, are therefore vulnerable to the disease in Thailand and West Africa (Wynd et al., 2009).

Similarly, a studies by Ahorlu and (McQuillan et al., 1999) in coastal the Ghana, found that many community members were able to mention the common manifestations of LF, describing them in local terminologies. However, the same study reported that communities

attributed LF to spiritual and other hereditary factors. For instance, in coastal Ghana, people who suffer from the disease are subjected to teasing and considered to be unsuitable marriage partners (Ahorlu, 1999). Those who do marry have a higher than normal divorce rate. These researchers consider that people will often seek health according to their aetiological believe of the disease or infection. Therefore, given that people in Ghana people assign spiritual causes to LF and for that reason, they will prefer to seek spiritual assistance instead of biomedical health care as situation which will invariably affect LF control programmes (Ahorlu *et al.*, 1999; McQuillan et al., 1999).

2.5.2 Gender Related Issues

It has been established that socio-cultural factors could be associated with people who are infected with the disease as the evidence supports the fact that, prevalent in some parts of Africa (Wijers, 1977; WHO, 2000) for instance, as far back as the 1970s, about 90% of men along the Tanzanian coast and 60% along the Coastal Province of Kenya who were infected by lymphatic filariasis, were giving several socio-cultural connotations to the disease (Wijers, 1977). But on the contrary, some study has shown that, in some part of the world women suffer a great deal of the infection than men. Relatively, the manifestation of the disease in women usually occurs mainly in the legs, while men experience it both on the legs and sometimes in the enlargement of the scrotum (Ahorlu *et al.*, 1999). Others have expressed that, hydrocele occur as a result of experiencing shock from any unexpected situations, having an illicit sexual affair with a married woman or women whereas elephantiasis is associated to walking in water (river/stream) bare-footed in a sand. Also, others believe that it is as a result of offending the gods which is seen as a taboo (Eberhard, Walker, Addiss, & Lammie, 1996), which is therefore punishable by an awkward manifestations of the offender.

In this regards, instead of seeking for biomedical care, the affected person might rather wont to spiritual treatment support, which will not be in the best interest the control strategy put in place to eliminate the disease.

2.5.3 Socio-Economic Burden of the Disease

Lymphatic Filariasis is often described as disease of the poor since it is prevalent in remote rural areas and in informal peri-urban and urban areas. Though, in recent years, the disease has steadily increased because of the expansion of slummy areas with the high rate of poverty in such areas, especially in Africa and the Indian sub-continent (WHO, 2000). The WHO reported that rural to urban migration and increasing urbanization; both of which are occurring increasingly in low income countries, are facilitating the spread of lymphatic filariasis (Brooker, 2007).

Beyond the above perceptions and misconceptions about the disease, there has also, been some level of misunderstanding of the disease by some section of the public. Resulting that, affected persons become socially marginalised, humiliated and incapacitated which then affects their economic status leading to economic hardship thereby causing them to suffer poverty (Coreil, Mayard, Louis-Charles, & Addiss, 1998). Consequently, such people refuse to socialize or decides to distance themselves from the public and for that matter, refuse appropriate treatment to the disease, hence making them a threat because, through them others members of the public can be affected.

2.6 Drug Associated Issues

Research has shown that, drug related factors are another major possible means impeding high coverage during MDA for LF in urban community (Ottesen et al., 1990). This is because, in often times, people either out of fear drug efficacy, low quality or due to personal reasons, decides not to participate in the MDA exercise. Others too believe that, the likelihood of encountering danger as a result of taking an non prescribed drug from a qualified doctor is high thus prevent majority of the people from taking the drug. Generally, it is presumed that drugs are potentially poisonous and based on that, most people refuse intake of the drug hence creating adverse effects on the lymphatic filariasis control programme. Comparatively this issues play a major role against high coverage during mass drug administration programme hence attractive seeming barrier to the accomplishment of the elimination target (Turner, 2006; Babu & Mishra, 2008). Another major area of concern is the fear of adverse side reaction of the drug on those who might have already had the infection of the microfilaria (mf) worm (Fischer et al., 2003).

Similarly, others have expressed the fear of feeling restlessness, uncomfortable, feverish, headaches, sore throat, cough, skin rashes and even to the extent of vomiting or experiencing diarrhoea after some hours of having swallowed the drug (Turner et al., 1994). This prevents a section of the people who have knowledge of this reactions from participating in the mass drug administration MDA programme even though, the combination of ivermectin and albendazole or the single dose of albendazole is not the exclusive cause of the drug but it is due to the fact that, the drug might have hit the inflammation and as result dying of the microfilariae worm produce such uncomfortable condition in participant (Addiss, 2005; Cross, Haarbrink, Egerton, Yazdanbakhsh, & Taylor, 2001). Another study by Olsen and

colleagues revealed that, (Olsen, 2007) regardless of the efficacy and the benefits of the drug, for controlling and elimination of lymphatic filariasis from the population, some people have seriously made up their mind to withdrawn from the mass drug administration MDA exercise (Kumaraswami et al, 1988; Cross, Haarbrink, Egerton, Yazdankakhsh & Taylor, 2001).

2.7 Health Sector Related Factors

As part of the global elimination programme for lymphatic filariasis (GPELF) stipulated by the World Health Organisation (WHO), World Health Assembly (WHA) in 1998, in collaboration Ghana Health Service has strategized a mechanism to worldwide eradicate Neglected Tropical Diseases which includes Lymphatic Filariasis or elephantiasis (WHO, 2010; Coreil et al., 1998). In this respect, a mass drug administration for LF was launched in 1993 (Ottesen, 1995). Under this process, specified combined drug (albendazole and ivermectin) are distributed (WHO, 2013) free of charge annually to the general public with the purpose of getting rid of the disease worldwide by the year 2020 (Simonsen, Derua, Kisizinga, Megasa & Pedersen, 2013).

Basically, the Health Service Providers remain the key stakeholders (mediators) or most important facilitators in the cycle of dispensing or distribution of the mass drug for controlling and elimination of lymphatic filariasis exercise respectively. In the chain to distribution, there is no way their services can be suspended in this chain (Alam, 2001), since they occupy a pivotal position during the MDA programme. Consequently, it is imperative to recognize the role been played by the health providers, that leads to steadily achieving the purported target through the meticulous and hard working health service providers, who

regularly and readily available to administer the drug to the endemic population both in the rural and urban communities (Ramaiah, 2001).

Community Volunteers are recruited from the various communities to provide support in the chain of the drug distribution exercise, also play an influential role in the mass drug administration for controlling or eliminating vector borne disease in the population because vector borne transmission is highly a public health concern that demand all manner of urgency (Ramaiah et al., 2000). The feasible implementation of the vector and parasite control for mass drug administration MDA programme has survived due to the competency and conscientiousness of health volunteers, who gives support the by roving an entire endemic population both far and near with the objective of distributing drugs to encourage eliminating and controlling filariae worm from further transmission (Goldman et al., 2007). However, another school of thought has asserted that, in spite of all the numerous constructive and impressive potentials of some health service providers, there are few others whose ill-attitude impedes the successive improvement of the elimination programme (Thomas, 2003). Similarly, lack of sociability exhibited by client towards patients is another major barrier to mass drug administration (Reader, 2007). In addition, some health providers such as nurses, para-medics and health volunteers lack commitment and portrays awkward attitude towards clients which seriously becomes as hindrance to the effective implementation of distribution of mass drug administration (Pronovost, 2003; Lahariya, 2011). Besides, some health providers (personnel's) lack respect for humanity in other words, some of them are very rude and uncultured and thus, often abuse clients either verbally or mal-treat them especially whenever clients visit the facility to access healthcare service (Makary, 2006; Meichenbaum, 1989) hence prevent some clients from accessing the service.

Also, it is perceived that, some health volunteers lack competence and diligence especially, bad communication skills, rigid inter-personal relationship which suppose to be the core for the medical field. These attitudes result in poor service delivery and as such, affecting the swift acceleration of the programme pertaining to mass drug distribution (Woollaston, 2008; Lahariya, 2011). And sometimes, in-accessibility in terms of proximity or sufficiency of drug (Amarillo, Belizario Jr, Sadiang-Abay, Sison, & Dayag, 2008) becomes a barrier to high coverage as well (Chu, Hooper, Bradley, McFarland, & Ottesen, 2010).

Consequentially, the disease burden for LF keeps declining especially in the urban communities and this has become a very serious public health concern which has adversely become great barrier to distribution of drugs hence unable to meet the set target for the urban population, whereas in the rural communities, it is on the reverse (Won, 2009). Moreover, lack of education, inadequate, efficient training and lack of understanding of the volunteers in connection to drug administration remains another contributory challenge to the programme (Bettinghaus, 1986; Ottesen, 2000). Again, inadequate financial motivation for volunteers is a major pitfall against the distribution programme (Lahariya, 2011).

Another key barrier to mass drug distribution in the urban community includes lack of media publicity including electronic and print as well as insufficient public education. Within urban settings, most people might not, or have very little knowledge about the programme (Linn, 2008), due to urban frequent migration. Additionally, heavy road traffic and terrible mobile condition among majority of urban population serve as another barrier to high coverage to mass drug administration MDA since most of the inhabitants live their various homes very early in the morning to attend to their respective jobs in order to avoid heavy road traffic. Comparatively, during mass drug administration, volunteers often hardly meet

the presence of these busy carrier habitants in their homes hence a serious barrier (Lahariya, 2011).

Apparently, beyond those barriers, the elite, high and middle class residents in the urban population are also present a key challenge in addressing lymphatic filariasis elimination programme. This is because, first, they perceive themselves to not be susceptible, since they trust in their environment so much, and for that matter it is impossible to be infected with such debilitating infectious disease. Secondly, they believe there is no need to partake in mass drug administration since they can afford irrespective of the cost assuming they are infected (Wynd, Melrose, Durrheim, Carron, & Gyapong, 2007), while LF is also labeled as the disease of the poor. Also, these classes of people perceive that, since they are much knowledgeable there is no need in taking or accepting un-prescribed drug. Besides they are not ill (experiencing any of the symptoms of the disease) or infected with the disease, so why bother? (Fogarty, 1997; Henshaw, 2001; Wynd, 2007). Similar attitude permeate through the elite schools in the urban population since school pupil refuse to take part in the MDA unless parent's consent before drugs can be dispense to such children (Fogarty, 1997).

Above all, in the urban population, residents in highly fenced and gated neighborhoods seem to also create a barrier to the achievement of high coverage. In that, volunteers find it very difficult to gain access to such houses. In some instances, the nature of tight security in terms of personnel or wild dogs is beyond imagination (Zeldenryk, 2011), preventing volunteer from administrating drug. Aside this, others who inhabit on the opposite of the social class too have a reverse of the story. They might be willing to partake in the programme but is likely volunteer meet their absence because they also, live very early in the morning to attend

to their business. And so, they are exempted from the Mass Drug Administration programme (Manafa, 2006).

In accordance with literature, it has come to light, that people who suffer the infection of nematode worm are subjected high degrees of discrimination in that, those who do not understand the concept of the disease believes it is an evil disease or the patient have been be-witched and so socially, people seem to distance themselves from such patient (Dreyer, Norões, & Addiss, 1997). Even when they are into any kind of business activity others do not want to patronize their services. In social gathering people withdraw from their company (Bettinghaus, 1986).

Finally, due to the debilitating nature of the disease, people with filariasis or elephantiasis are stigmatized and marginalized (Kay, 1998). Because of this stigmatization associated to filariae patient when signs are observable, then these patients' tend to hide themselves from the public and as such, refuse to participate in the mass drug administration thereby exacerbating their condition till they are totally disfigured or deformed. They also, become a threat to public health since they become channel for further transmission of the disease (Dreyer, 1997; Coreil, Mayard, Louis Charles, & Addiss, 1998; Weiss, 2008; Person, 2009; Tora, 2011).

Conclusion of Literature Review

From most of the literature researched, majority of the studies have focussed on laboratory based studies on the causes of LF and entomology of the vector. A few studies have been

carried out on the impact of the disease and the disease burden with others examining the economic and social cost of the disease (Chu et al., 2010). However since the inception of the MDAs, little study concerning the barriers to high coverage during MDA coverage. This study seeks to provide evidence to help adopt strategies to increase coverage and over-come barriers impeding high coverage for LF in urban population and to find out possible solution (Addiss, 2005) to alleviate such public health problem that bothers majority of the people in the society. Such data is required to complete the social science data for the control of LF.

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CHAPTER THREE

3.0 METHODS

3.1 Study design

This chapter discusses the study methods and design including the tools the sample size, sampling techniques, data collection and data analysis. This study employed qualitative research approaches suitable for exploring new ideas needed to appropriately address issues that create barriers to high coverage. Qualitative approaches used included, Focus Group Discussions, In-depth Interviews and Key Informant Interviews. A wide spectrum of stakeholders and participants including community members, health service providers and programme managers were involved in this study (Sullivan & Sargeant, 2011).

3.2 Study Area

The study was conducted in the urban communities of Nima-Maamobi in the Ayawaso sub-metro, in the Ga District, (Greater Accra Region). The sub-metro is bounded on the north by GIMPA through the University of Ghana Legon, sharing boundaries with Ga East District at the University of Professional Studies formerly Institute of Professional Studies (IPS) road. On the eastern part of the Independence Avenue starting from Kwame Nkrumah Circle to Apenkwa Overpass Bridge sharing boundaries with the Osu-Klottey sub-district and on the western, starting from University of Professional Studies Junction through 37 Military Hospital to Ako-Adjei Inter-Change.

Some parts of the study site such as Nima-Mamobi, Mallam Attah, Alajo are densely populated (slum). Therefore due to the slummy nature of the community, it enhances infestation and transmission of the disease as well as making it possible for the endemicity of the community. The inhabitants in this district are predominantly Muslems, Christians from

diverse denominations, Traditional African Religion and there a few others who are atheist. The women are largely petty traders who engage in buying and selling whilst the men folk are merchants, businessmen and artisans of all sets, for instance (Masons, Carpenters, Tailors, Wielders and Electricians). Civil Servants of low income group are as well found in places like Nima-Maamobi, Accra Newtown (Mallam Atta), Alajo, Kotobabi and Abelemkpe.

There is a large concentration of health facilities in the sub-districts and this consists of government, quasi-government, private hospital and clinics. There are 3 government clinics, 2 quasi-government Hospitals, 7 Private hospitals, 64 private clinics including dental clinics and 10 maternity homes.

The study sites included facilities and communities in the district within which MDA for LF exercises have been conducted over the past seven years. These communities include Nima-Maamobi, Alajo, Mallam Atta, North Ridge, Roman Ridge, West and East Legon and Airport Residential with the facilities being Maamobi General Hospital, Legon Hospital, Nima Government Clinic, Mallam Atta Clinic, West lands Reproductive and Child Health Static Clinic, Alajo Static Immunization Center and King David Hospital - Kotobabi, facilities.

3.3 Study Population

The study population refers to the group the researcher wants to study into, from which study sample will be drawn. Eligible participants included adults 18 years and above who refused to partake and those who partook in the MDA. The study population also included MDA volunteers, community health nurses and disease control officers (programme managers) of MDA. The disease prevalence in Africa represents about 30% of the universal disease burden, with about 4059 million people been in danger of infection in 39 of Africa's 46 member countries (WHO, 2010) In West Africa, the distribution of the disease is focal with

high prevalence among the poor and least developed areas. A prevalence of about 1.6% was reported in a population base study in the Gomoa District in the Central Region of Ghana (Amuzu, 2010). Generally, it has been estimated that the prevalence of LF ranges between 3% - 12% in the southern Ghana and about 30% in the northern Ghana (Noguchi Memorial Institute for Medical Research & Japan International Cooperation Agency, 2004). However, a follow-up search which was carried out from the NTD Head office in Accra revealed that, since 2012, prevalence rate for MDA for Lymphatic Filariasis in the Ayawaso Sub Metro namely Mamobi Polyclinic has been 0% zero percent (NTD blood sample report 2012)

3.4 Sampling Method

This study employed purposive sampling method, which is a non-probabilistic sampling procedure. Non-probability sampling is a sampling technique in which some units of the population have zero chance of selection or where the probability of selection cannot be accurately determined (Bhattacherjee, 2012). However, a purposive sampling technique is a type of sampling where the researcher consciously selects particular elements or subjects to include in the study ensuring that those elements or subjects possess certain characteristics pertinent to the study. The researcher purposely sampled community members who had participated and those who refuse to participate in the MDA exercise, health workers who were involved in previous MDA exercise, community volunteers recruited for MDA and residents who had resided in the study community for more than six years.

3.5 Data Collection Techniques

Below are details on the three (3) main qualitative approaches used for data collection. The interview guides were developed under the following main themes; awareness and process of

drug distribution, socio cultural implications of the disease as well as the disease related stigma.

3.5.1 In-depth Interviews (IDI)

In-depth Interviews (IDIs) were conducted using an interview guide. The IDIs were conducted among community members and medical staff in some facilities in the Ayawaso District. A total of fifteen (15) in-depth interviews were conducted with community members in all the communities that constitute Ayawaso District. The interviews were conducted in English, Twi and Ga Language respectively. Whilst those conducted in local dialect were further transcribed into English language. Collected data was in the form of audio recording and notes. The data was collected by the principal investigator and four (4) trained research assistants. Averagely, about 40-60 minutes was used for each interview.

3.5.2 Focus Group Discussion (FGDs)

Focus Group Discussion (FGD) on the other hand is a qualitative data collection approach in which one or two researchers and several participants meet as a group to discuss a given research topic (Mack *et al.*, 2005). During the study, six (6) focus group discussions (FGDs), were conducted among health service providers, community volunteers and community members from the various communities that constitute Ayawaso District. Each FGD lasted for about 120 minutes. The groups were made up of three (3) health service providers including community volunteers who happen to be the key facilitators in the chain of exercise. The other three (3) groups also comprised of community members who had ever participated in the MDA and those who had never taken part in the programme ever since its inception. Each FGD comprised of about eight (8)

3.5.3 Key Informant Interviews (KIIs)

A Key Informant is described as an individual who has in-depth knowledge in a particular subject under investigation. Three Key Informant Interviews (KIIs) were conducted with the programme manager for the sub-metro, a health provider and a community member who has lived in the community for over 6 years. Collected data was in the form of audio recording and notes. The data was collected by the principal investigator and four (4) trained research assistants. Averagely, about 40-60 minutes was used for each interview.

3.6 Data Collection Tool and Procedure

Interview and discussion guides designed specifically for the IDIs, Key Informant interview (KII) and Focus Group Discussions, were used to collect data in this study. Focus group discussion (FGD) guide was used to elicit normative information on community level barriers to the MDA programme.

(The interview guides were designed to assess the level of awareness, knowledge perception, and socio-cultural beliefs associated with MDA of community members and health workers. Information on reasons for non participation in the MDA by some community members as well as the socio-demographics characteristics of participants was collected. Participant's non-involvement in the MDA exercise was due to the accounts on previous adverse drug reactions experienced by some sections of community members. Others too related their reasons to the fact that, either the drug is of low quality or its close to expiry that was why it is distributed free of charge. Finally, others too felt they were susceptible to lymphatic filariasis and as such there was no need for participating in the exercise.

3.7 Quality Control

To ensure good quality of data collected research assistants or data collection personnel were all trained to assist during the data collection. An interview guide was used during the process of the study in order to ensure that, accurate and relevant data is collected and recorded accordingly. Each day, data was checked at the field to ensure that all information has been properly collected and recorded by the Principal Investigator in order to achieve optimum accuracy. Errors and omissions detected were duly discussed with the respective research assistants.

3.8 Data Processing & Analysis

The data generated from the Focus Group Discussion (FGDs), in-depth interviews and key informant interviews were all tape recorded and notes were taken alongside. Interviews were then transcribed verbatim, coded, themes were generated. Texts results were analysed by using thematic analysis. Maynard and Purvis (1994) state that repeated listening to taped interviews with participants is an essential, yet often neglected area of analysis. An attempt was first made to extract broad themes from the transcripts and then progressed to identifying coded themes. In establishing themes, considerations were given to statements of meaning that were presented in most of the relevant data. In an attempt to ensure, credibility of the findings independent coders were adopted to verify or corroborated the themes extracted from the data. The data was analysed simultaneously with data collection analysis and write ups. This allowed the research to progressively focus the interviews and observations, and to decide on how to test the emerging conclusions.

3.9 Ethical Considerations

Ethical clearance for this study was sought from the Ethical Review Committee of Ghana Health Service (GHS). Also, permission was sought from the District Health Administration, In-Charge of the health facilities and the Medical Assistant/Doctor responsible in the health Centers and Community Opinion Leaders. People's rights not to participate in the study or opt out were respected. The reason for the study was explained to all participants; both verbal and written consents were obtained. Permissions for consents formed part of the introductory aspect of the qualitative tool. Privacy was ensured during the interview; participants were interviewed individually and were assured of confidentiality. Names were abbreviated to disguise the participants' identity. All those who were involved in the data collection and analysis were cautioned during the training process to ensure confidentiality and anonymity throughout the study.

3.10 Pre-Testing of Data Collection Tools

Pre-testing of the tool was carried out at Social Welfare, Mempasem and other surrounding environs of Medina in the Greater Accra region. This was to evaluate the time required to complete each interview guide and to establish the accuracy of questions and to identify potential challenges in the proposed study. Secondly, to assess the enthusiasm of respondents to answer questions that collaborates with the study, reaction of respondents to research procedures, adequacy of logistics and training given to the research assistants.

CHAPTER FOUR

4.1 Results

4.1 Table:

Data Collection Methods and Participants/Groups

Focus Group Discussions and In-depth Interviews (N=65)							
	In Depth Interviews		**Focus Group Discussion**			**Key Informant Interviews**	
Participants/Group	**Number of Participants**	**Location**	**Number of FGD**	**Number of Participants**	**Location**	**Number of Participants**	**Location**
Community Health Nurse			1	8	Maamobi		
Reproductive Child Health Nurse			1	8	Maamobi		
Community Volunteers			1	8	Nima		
Community Members			1	8	Alajo		
Community Members			1	8	ATTC		
Community Members			1	7	ATTC		
Senior Nursing Officer (RCH)						1	Legon Hospital
Disease Control Officer						1	Maamobi
Senior Nursing Officer (RCH)						1	Mallam Attah
Community Member	2	Roman Ridge					
Community Member	2	West/East Legon					
Community Member	2	North Ridge					
Community Member	2	Airport Residential					
Community Member	2	Nima					
Community Member	2	Maamobi					
Community Member	2						
Community Member	1						

The above table represents the characteristics of all participants who participated in the various interviews conducted in the interest of the study. The researcher had in all; fifteen (15) In-depth interviews with community members selected with the purpose of identifying their knowledge, awareness and perceptions of the LF disease, knowledge of the MDA exercise and perceived reasons for not participating. With three (3) In addition, Key Informant Interviews were conducted with some health providers who are very knowledgeable about the topic under study. Also, the study had six (6) focus group discussions in total; three (3) with health workers and three (3) with community members. Participants with the FGDs for health workers were made up of MDA Zonal heads and their assistants, community health nurses and community volunteers who have been involved in the exercise for a period of seven (7) years. Whilst the other three (3) FGDs were made up of community members selected from the various communities in the district.

4.2 Community Associated barriers to mass drug administration for lymphatic filariasis

The community which serves as pivot to the entire MDA for LF programme cannot be dealt without some challenges which are peculiar to programmes of this nature. This is because, the community comprises of different characteristics such human, logistics and location and all these if not properly managed, then there is a possibility of facing great challenge which will deplete any well orchestrated project.

This section focuses on themes that emerged in both IDIs and FGDs on community related barriers for MDA for LF.

4.2.1 Knowledge of Participants on the causes of Lymphatic Filariasis Disease

The study participants admitted they had no knowledge about the disease, its causes, mode of transmission and treatment.

Knowledge of LF was varied and included transmission through mosquito bites, poor environmental sanitation, floods caused by rains, and contact with dirty water.

This was captured with the following quotes from community members involved in both IDIs and FGDs:

> *''...All I know about the disease is when someone gets infected the person develops a swollen leg...'' (IDI, Community Member)*

> *''...Actually I don't know but I know a few people are aware that the disease is caused by mosquitoes due to floods and choked gutters...'' (FGD. Community Volunteer)*

> *"... I don't know much about the disease, but what I know about it is when it affects you, it causes your leg to be swollen and makes it very big. It is hard for you to walk. Sometimes you can't even walk". (FGD, Community Member)*

> *"...What I also know is when you get infected with contaminated water-bodies, then, you will get the disease and your feet will be big and worm will be coming out of your feet". (FGD, Community Member)*

> *"...I believe there is a spiritual aspect of elephantiasis because the information I have come across is, as expressed in Twi* ***"ye petee biribi guuho na okotae so" or "okogyee obi kunu ena ye bonu dua"*** *meaning some magic charms were sprinkled on the ground and he or she stepped on it or she went after someone's husband and she has been cursed". (IDI, Community Member)*

4.2.2 Misconceptions of Participants about LF

Participants from both IDIs and FGDs disclosed that the disease was caused by charm or evil spirits for example; LF is described as "*Tsukpee"* meaning a condition that result from either a spell or magic charm. Participants made the following utterances:

> *"…They have something they call "Tsukpee"…meaning they will cast a spell or magic charms". (IDI, Community Member)*

> *"I also, know that it is caused by an evil spirit. The cultural understanding of it is, if someone wants curse you or retaliate an evil with an evil he or she will let you get it through charms or casting of spell". (FGD, Community Member)*

> *"...A native doctor too can cause it". (FGD, Community Member)*

> *"…In our cultural system we can believe that, maybe, you have gone to steal someone's goat and the boys if you like chasing girls….and you go and chase someone's daughter he can give you elephantiasis. Because some people here, are targeting some girls". (IDI, Community Member)*

> *"…Breaking of a taboo". (IDI, Community Member)*

> *"…I don't know; they say someone might have poured some concoctions down for me to step in. It was like for two years now and what have you been doing? They gave me some medications to apply on it". (IDI, Community member)*

Participants from both IDIs and FGDs claimed susceptibility to LF disease to be prevalent in rural communities and uncommon in urban communities and also, drinking contaminated water or eating unwholesome meals: As quoted...

> *"..If one keeps food for a longer time the organism can infect it to cause the disease". (IDI, Community member)*

"…Ehmm!... As my sister said, you can get infected from contaminated water". (FGD, Community Member)

"…What I also know is when you get infected with contaminated water-bodies, then, you will get the disease and your feet will be big and worm will be coming out of your feet.". (IDI, Community Member)

"…me someone told me it's caused by bad diet….". (FGD, Community Member).

Other participants said LF was caused by poor environmental condition and are not susceptible. As identified…

"…People who live in the high social class believe that their environment is free from any filth or contaminated water bodies". (FGD, Community Volunteer)

"…Some of them, they say looking at their environment what shows that they can get such a poor disease". (FGD, Health Service Provider)

"…What!!! How possible do you think I can get this nasty disease here in Airport residential area?? (IDI, Community Member)

Participants further claimed LF to be hereditary and run through the family. As quoted…

"…Yes! Yes! What I perceive about the disease is….it is hereditary". (FGD, Community Member)

Some participants believed an injury caused by a metal which is treated for tetanus to also progress into Lymphatic Filariasis...

"…Also growing up, we were told that when something rusty cuts your leg, and then out of tetanus, you do not treat it, then, the leg might become very big".(FGD, Community Member)

4.2.3 Self Stigmatization and Community Discrimination Associated to Lymphatic Filariasis Disease.

Participants from both IDIs and FGDs said community members stigmatized and discriminated against people affected with LF disease thus, people with the disease condition wear long dresses to cover the affected part and the people stigmatized and descriminate themselves. As illustrated…

> *"…Yes! That's what I think and know. Yes he was discriminated upon. People had the notion that, he had done something wrong and for that matter, people shun away from him and others too think he was cursed and so they discriminated against him". (IDI, community member)*

> *"…It was not fully covered…..the leg was huge and it was some way, I couldn't watch it!...."Aye basaabi saa….." meaning…. Looking so nasty, horrible and awkward". And she always wore long dresses in order to cover her legs (FGD, Community Member)*

> *"…That's indeed true I won't like to buy from a person with the disease because of the nature of the disease. Sometimes I can choose to give them alms but not expect any commodity in return in terms of buying. And I believe a lot of people will also, not buy from such a person". (IDI, Community Member)*

> *"…But about two months ago, I was with a family planning team when a woman came. She was wearing a pair of jeans trousers which was partially covering it, but I was very, very fast to notice it. I realized that one of her foot was swollen. It was there that, I was like Madam, what has happened to your leg? It was there that she said, I don't know; they say someone might have poured some "concussions" or "black charms" down for me to step in". (FGD, Health Provider)*

"Yes!! yes!! He is always in doors and because of the nature of his leg, he can't wear trousers but always wearing shorts and cover the leg with polythene he hates mingling with the public and always stay indoor"(FGD, Community Member)

4.2.4 Participants Awareness Regarding Mass Drug Administration

Some participants from both community IDIs and FGDs admitted they were not aware of the mass drug administration exercise. As quoted…

"...Me? I have not heard anything concerning any drug and so I don't know why I should take this drug. I don't trust anything like this.....(IDI, Community Member)

"...They don't talk about the disease; that's why me!! I don't hear of it...I hear anything about it before. (IDI, Community Member)

"... I think what should be done is, national should create much more awareness about it because the publicity is very low. (IDI, Health Provider)

In this regard, some participants from both community IDIs, FGDs, health provider and volunteer FGDs proposed the use of social media as strategy to increase public awareness for LF and MDA exercises. This was captured with a quote…

"... Simply!! Social media....Yes!!! The use of the social media can also help in the hyping awareness". (IDI, Community Member)

"...They can use documentary in the promotion of the awareness". (FGD, Community Volunteer)

"...I will say that, they play the advertisement during the showing of the telenovelas because majority of the people watch those programmes". (FGD, Health Service Provider)

Participants from IDIs and FGDs among community members and community volunteers and some health service providers, claimed that majority of community members are highly mobile…the leave home very early morning for work. As quote….

"...I am always out for work so I have never met the volunteers. (IDI, Community Member)

"...when you visit most of the residential areas the people are not in the house so you will knock and knock and knock and there is nobody there". (FGD, Community Volunteer)

Participants from, health provider and community volunteers FGDs assigned for the mass drug administration exercise claimed that they often did not meet community members in their residences. The following utterances explained…

"...when you visit most of the residential areas the security guards at the gate will not allow you to enter into the house and is so annoying and frustrating you will knock and knock and". (FGD, Community Volunteer)

"...when you visit most of the residential areas the people are not in the house so you will knock and knock and knock and there is nobody there". (FGD Community Volunteer)

"...If you meet gutter, spill waste water no problem.....If you see feaces no problem, You meet "shuuuoo" the "wee boys" .....the wee boy smoke into your nose, unless run for survival. They will smoke India hemp on you and chase you out. Most of the

communities around Nima, Maamobi, Mallam Attah we have such people hiding in the communities. And with the residential area too, you meet wild dogs deterring you from interring the house. (KII, Health Provider)

4.2.5 Access to Residential Homes

Participants from interviews and discussions among both community volunteers and health providers claimed their inability to gain access into respective gated homes. Entwined with residents keeping wild security dogs in the house. As illustrated…

"..Those people who live in areas like Airport Residential, North Ridge, Roman Ridge, West, and East Legon, they feel like they are on top of the world…so when you go there, they look down on you as if you not human being like them…and their wild dogs always barking at us" (FGD, Community Volunteer)

"…The known-income area, the highly educated areas like, the higher residential areas…like Air port residential area, Roman Ridge, East Legon etc… they have been refusing the drug. I don't know if it is because of their educational background or their money, or what… I don't know o-o-oh! So if there is going to be an award then I will say "East Ayawaso. I won't choose Central Ayawaso because I won't be able to meet my target of 120 a day. I will choose East Ayawaso, I won't choose Central Ayawaso, I will not meet my target. They will not welcome us so they should talk to them that, when we come they should accept us because; if not, a time will come nobody will want to go there. And sometimes, they think if we come in we will spy and bring in arm-robbers to attack them at night". (FGD, Community Health Nurse)

"..And also, some will tell you they have their personal doctors so they don't take drugs outside like that, that's what they will tell you". (FGD, Community Volunteer)

4.3 Drug Associated Factors

In the MDA for LF, the issue of drugs represents and serves as the central idea. However, if such concerns are not properly and carefully tackled then the problem of causing more harm than good cannot be overemphasis. Some of these problems are perceptions about expired

drugs, low quality of drugs or drugs brought down to harm Africans for-instance to render African male an impotent.

4.3.1 Adverse Drug Reaction

Participants from community members IDIs and FGDs perceived adverse drug reactions from previous MDA experiences. According to them, this might discourage them from participating in the MDA. The following utterance explained that…

> "…*Yes as for me I am a living testimony of these drug reaction. When I was young I was given I think yellow fever vaccination and I experienced swelling on the portion they injected me and I couldn't raise that hand for several weeks. So from that time my family decided not to take part in any mass drug administration". (FGD, Community member)*

> "…*I have also seen someone who took these two tablets they gave to prevent elephantiasis and the person had rashes all over the body. It was very scary so I decided not to take the drug and since that time I haven't taken any of the mass drugs that Ministry of health gives to people". (FGD Community member)*

> *"... Sometimes it will treat you alright as elephantiasis but it will give you another side-effect. (FGD, Community Member)*

> *"...I know of somebody who took the drug and had a miscarriage after few days.*

4.4 Perception of expired drugs and low quality

Some participants perceived most of the drugs imported into the country for the purpose of free distribution, are either expired or very close to expiry and of low quality. They therefore, perceived the MDA medications to be of similar quality. As illustrate…

> "…*You see, when you go to super markets and their products are near expiry, they reduce the price to clear the goods and sometimes they put them in a basket for*

people to take it free of charge. You see, how can we be sure that the drugs are not expired? Free things are dangerous you know". (FGD, Community member)
"*…There is a perception that, the drug is fake, and then want to try it on Africans before they will issue to home-country members outsider". (FGD, Community Volunteer).*

"…As for me, I will rather go to drug store to buy it at whatever price to be sure of its quality than to take the one Ministry of health distribute free of charge. For all you know the drug is of low quality". (IDI, Community member)

4.5 Health Sector Associated Factors

This section throws more light on various issues that emanate from the health sector that tend to create or impede the MDA for LF programme hence becoming barrier to high coverage in an urban community.

4.6 Communication gap

Participants from health providers, IDIs and FGDs associated the LF Mass Drug Administration for Lymphatic Filariasis programme with poor communication:

"..I believe there is a cultural aspect of elephantiasis because the information I have come across is, as expressed in Twi ***"ye petee biribi guu ho na oko tia so" or "oko gyee obi kunu na y3 boo no dua"*** *meaning they sprinkled something (black charms) and she stepped into it; or she went after someone's husband and she has been cursed. (IDI, Community Member)*

Some participants from community member, volunteers and health providers admitted majority of the population have no idea, and those who claim to have knowledge, some of them mistake LF to Buruli Ulcer. As quoted out…

"…Personally I haven't heard about this disease, especially the popular one's are malaria, cholera, polio, Buruli ulcer…but this one I haven't heard much about it. (FGD, Community Member)

"...For elephantiasis, there is no information or knowledge about it. I think more awareness should be created about the disease and they should do a lot of broadcasting and education on it. (FGD, Health Service Provider)

"… To be honest with you, I haven't heard anything about it at all. (FGD, Community Member)

"...Frankly speaking, the only drug administration I have heard is the polio thing but I have not heard of the L.F. (IDI, Community Member)"...they will tell you it is the disease that has the worm coming out from the leg". (FGD, Community Volunteer)

4.7 Poor planning of MDA exercise

Participants from both community volunteers and health providers claimed MDA exercise is poorly organized, very short notice are given for volunteer to come for training preceding MDA. Usually, the MDA trainings are hurriedly arranged and conducted for volunteers. As captured from the quote…

"...It is true. The way they plan this exercise is not good at all. I have been a volunteer in this exercise for many years but any time they call you, we have one or two days to start the exercise. As for me I am not new to the business but those volunteers coming for the first time are not well trained to convince people to take the drug. So when the person says he won't take the drugs they don't know how to convince the person". (FGD, Community Volunteer).

"...Even this MDA we are starting next week, we were informed on Wednesday and only had one day training on Friday (June 25, 2014). No notices were sent to the communities and no letters were also sent to the school. How can the people understand the exercise and take the drug? So as you doing this exercise tells them to do it proper". (FGD, Community Health Nurse).

4.8 Inadequate Motivation for Field Staff and Volunteer

Participants from both community volunteers and other health providers claimed poor motivation for LF mass drug administration resulted in low coverage. The poorly motivate volunteers engaged for the MDA exercise lamented on the tedious nature of the MDA exercise. As pointed out from the quotes…

> *"…In actual fact, if the motivation given is not attractive enough and you go the person's house and the person will say* ***"mi dea mengye…"*** *meaning out for me; I will not do it (I won't participate). Then you will just look at the person and tell him* ***"braah, mi dea mi mpeh gyemisem biaao"*** *meaning brother, I hate foolishness. (FGD, Community Member).*

> *"…You just look at the motivation given to you and you go to the person's house and he tells you get out from me I will not take it. If you don't restrain yourself you will insult the person back". (FGD, Community Volunteer).*

> *"…But as for me, if the money is there and it is good, and you even provoke me, I will be patient and tolerate anything. But if not, then…. you can just imagine. But if, at the end of the day I will get what I want, and the money is good, why not? (FGD, Community Volunteer).*

Participants from community volunteers claimed community members met on the street often request for money to buy water to take the drugs. As quoted…

> *"…Sometimes when we meet somebody along the street, and we want to give the drug, he or her will tell you me I don't have water to take so… if you can give me water then, I will take". (FGD, Community Volunteer)*

> *"In some schools water becomes a problem because the teachers have to provide water for all the school children so that, we can also give the drug to the children…and you see that, it creates a lot inconvenient for the teachers". (FGD, Health Service Provider)*

"...Concerning the water, even the one they bring to the facilities (hospital or clinic) sometimes they don't bring it all, or it often comes in very late when the exercise is almost over". (KII, Zonal Head)

4.9 Inadequate training for volunteers

Participants from community IDIs and FGDs stated that majority of the community volunteers who are engaged in the MDA for LF exercise do not have enough knowledge on the disease, causes, symptoms and treatment. As quoted…

"...Honestly speaking the people who came to my shop to give the drug could not explain it. I was not convinced about what they were say so, me I did not take". (IDI, Community Member)

"...Because the time for training the volunteers is so short often it create problems for the programme". (FGD, Health Service Provider)

Participants from health providers stated that, community volunteers are only giving about two to three hours training and because, they lack adequate information they are not able to educate and convince those community members who are not aware of the exercise. As quoted…

"...The period for training volunteers is too short and so, they don't like really get the concept or don't understand the disease condition let alone giving of valid information on MDA and a lot more" (FGD, Health Provider)

4.10 Inadequate Provision of Logistics for Identified Volunteers

Participants from community volunteers expressed inadequate supply of logistics like T-shirts, caps, souvenirs, apron's etc. which will offer them easy recognition on the field as well as gaining access and trust of the community members.

"..I also believe some do not want to take it because the volunteers who administer the drug do not come with any identification to show that they are from Ghana health service and that they are volunteers. They are only told to appear in white tops. So why should I take a drug from such a person? I rather walk to a pharmacy to purchase my Albendazole". (FGD, Community Member)

CHAPTER FIVE

5.1 DISCUSSIONS

This chapter therefore discusses various findings that emerged out of the study. The following paragraphs represent diverse factors that constituted barriers to high coverage during MDA for LF programme in the Nima-Maamobi an urban community in Ghana. The findings of this study shows several community related factors, drug related factors not forgetting health provider factors which as well posed as serious component of the barriers inhibiting high coverage during MDA. The community related factors highlighted on community members who partook and those who did not participate in the MDA exercise in the Ayawaso Sub-Metro. Some of the reasons for some community members not participating in the exercise included misconceptions about community members who did not partake in the MDA and the adverse reaction experienced by some community members who did in the MDA. Additionally the drug related factors included claims such as drugs been of low quality, drugs been expired, and a possibility of causing impotence among male participants. Then finally, the health provider (system) related factors also comprises of lack of logistics and adequate training for volunteers as well as poor planning. This study aimed at finding out various barriers that inhibit high coverage during Mass Drug Administration for Lymphatic Filariasis in Ayawaso Sub-Metro in the Greater Accra Region.

LF is considered as disease of the poor which is due to migration or urbanization and is predominantly found in slummy and swampy communities (Lindoso, 2009). Relatively, it is characterised by chronic or permanent deformity on the affected person. It can therefore be eliminated or treated by surgery, chemotherapy or Mass Drug Administration (WHO, 2010). The disease is transmitted by mosquito taking a blood-meal by biting and depositing the parasite via human (Taylor, 2010). The strategy adopted by WHO and WHA for the

elimination of Lymphatic Filariasis by the year 2020, this is to achieve 80% coverage of the prescribed drugs in the disease prevalent area for the MDA programme conducted every year for 4-6 years (Njomo, 2013). After seven (7) years of LF elimination exercise in the Nima-Maamobi in the Ayawaso District, records have shown that coverage is still low in this urban community whilst rural intervention have gained much success. On the other hand, it is in the interest of this study to expose and address the various barriers that impeded high coverage during MDA for LF in the urban community (Price, 2012)

The study was guided by a three (3) level conceptual frames which summarized the relation between the various variables in the study (figure 1). From figure 1, four interrelated factors acted independently or interacted emerged the barriers to high coverage during mass drug administration. District or Community-based related factors such as misconception and religious belief could lead to stigmatization of the people with the infection. This is because, due to the premeditated idea about the disease, most community members would like to shun away from an infected person thereby, stigmatizing the patient. Also, socio-cultural factors can also lead to stigmatization and discrimination. In this regard, most community members may perceive the patient to be an "evil-doer" and as a result have incurred the wrath of the gods upon him or herself. In that case majority of the people will have nothing to do with such a person thereby making the person an outcast or an alien in his or her own land. Additionally, Drug related factors also served as a barrier to high coverage. This drug related factors could either be an adverse reaction from previous MDA exercise, an alleged low quality drug or an expired drug. Health Sector Related factors which included attitude of the health workers and availability of enough drugs for MDA as well as unattractive motivation and lack of logistics just to mention a few. However, irrelevant associations between

community, drug and attitude of health service provider created barrier to high coverage during MDA exercise.

Basically, community members resorted to unorthodox method of treatment due to their lack of accurate knowledge about the disease, causes, symptoms and treatment, (Rauyajin, 1995; Ramaiah, 1996). Interestingly, findings from this study revealed that inadequate communication also impeded high coverage during the MDA exercises. In this regard, their lack of awareness negatively affected their knowledge concerning the disease (Amarillo, Belizario Jr, Sadiang-Abay, Sison, & Dayag, 2008) thereby generating low coverage. There is the possibility of overcoming barriers to high coverage if strategy for Information Education Communication (IEC) campaign is adopted as a means of improving awareness through educating community members on the benefits of the MDA exercise for LF on various channels of communication be it electronic, print or social media it will yield a great deal positive result during MDA exercise (Ramaiah, 2011).

In addition, perceived causes of LF inhibits high coverage during MDA programme with community members having presumption that elephantiasis can only be transmitted through spiritual means and for that matter, would prefer seeking health from a native doctor rather than biomedical treatment and so, reject the participation in the MDA (Rauyajin, 1995). Study findings revealed that, the nature of the infection is characterised by a misconception that, the disease can be transmitted through hereditary, “black charms” or been cursed by an offended person (Wynd, 2007). Unfortunately, this led to the belief that the disease cannot be treated by using orthodox means (drugs).

Relatively, there is the belief that when a woman goes after someone’s else’s husband, a

curse can be pronounced on her to infect her with such disease. In this situation, such a person is unlikely to resort to orthodox treatment but rather spiritual means. All these, misconceptions were evident due to low level of awareness of the disease (Ramaiah, 2011; Amarillo, 2008). Again, the misconception about hereditary where some section of the community members believed that, once a parent is infected with the disease there is the likelihood of the off-springs being infected. This misconception has also, given credence to barriers affecting high coverage during MDA exercise (Yakob, Deribe, & Davey, 2008) as it discouraged them from patronizing the drug because they believed in the genetic causes.

Since time immemorial, stigmatization and discrimination have often been associated with any awful and weird disease condition; and filariasis has not been exempted. A number of people who suffer from filariasis and other debilitating diseases tend to be shunned (Krishna Kumari, 2005) away and community members do not want to associate with such person(s) in the community for no just reason. A study conducted in Andhra Pradesh in India identified similar attitude portrayed towards the infected person(s) (Coreil, 1998) whereas, others too, discriminate against the infected the person(s) and often treated them like an outcast (Jamison, 2006). But as pointed out in the findings from the study, most infected persons are usually stigmatized by people around them in the community (Litt, Baker, & Molyneux, 2012). Most especially if the infected person happens to engage in any business activity, apart from strangers' who probably may not be aware of the disease situation and may patronize, whilst those who know will never want to have anything to do with the affected person (Weiss, 2008).

Consequently, due to the level of stigmatization and discrimination attached to the disease condition, the infected person(s) prefer to isolate themselves from social gatherings and also

prefer to wear long gowns or dresses in order not to expose the infected areas for others to see. Also by self stigmatizing themselves they perceive MDA cannot be a possible solution for their condition and so refuse the drug whereby making them a public threat at that stage. This is because at this stage, they have the loads of worms or remain carriers as they also become sources of possible infection in the society or in the community (Rauyajin, 1995).

In this present era of technological advancement, the success of every programme depends on the level of information dissemination; therefore without adequate publicity, MDA for LF is bound to suffer low coverage. Interestingly, similar study was conducted in Sri Lanka and it gained an amazing response of over 70% patronage simply because it employed the use of the media television, radio, leaflet, posters etc (Weerasooriya, 2007). Study findings revealed that, MDA for LF in urban communities lack sufficient publicity. Unfortunately, urban MDA for LF face challenges of low coverage as a result of not employing the appropriate media coverage such as print and electronic. So if the reverse is adopted then, there is a possibility of overcoming the barriers of high coverage during MDA exercise.

Again, it became obvious that, similar programmes organized in rural communities have great impact because of the nature of their setting; it's more of a community, their social mobilization was not difficult like the urban (Krishna Kumari, Harichandrakumar, Das, & Krishnamoorthy, 2005) as a study identified in India. Thus, majority of them have specific period of moving out for farm or attending to other activities and return at a fixed period hence meeting such people is quiet flexible and convenient (Das, 2001). Shockingly, a study conducted in India revealed similar findings showing the increasing differences between rural and urban coverage.

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Additionally, it has been noticed that, people who live in highly mobile communities leave early and come back home very late hence gaining residential access for MDA for LF by health service providers became so difficult. Findings from the study confirmed that, health providers found it as a key hindrance during their field work since it was impossible to achieve their set target in such communities. In this regard, because such people do not participate in the MDA it means they are not protected hence a threat to the community in case of infection and therefore, becoming a barrier to high coverage in the urban community.

Furthermore, it obvious that, people attach much importance to their socio-cultural beliefs more than any other issue (Rauyajin, 1995). In exchange for that, they will eschew very important issues, all in the name of protecting and practicing culture to the maximum (Yakob, 2008). Shockingly, another study conducted in Thailand also revealed similar but quite a reverse response where majority of the people were aware of the cause of filariasis but rather doubted the cause of hydrocele and others, and would connect that to spirituality or socio-cultural beliefs (Rauyajin, 1995). The findings in the study revealed that, such caliber of people will always read meanings to every situation and for this reason they will never believe that LF has nothing to do with spirituality but rather caused by that "small insect called mosquito" (Wynd, 2007). Comparatively, such people accord special credence to socio-cultural beliefs more than any other thing and those beliefs occupy a pivotal role in the daily lives of most Africans, and their neglect for MDA is bound to create problem against high coverage (Ramaiah, 1996).

Beyond the usefulness of the drug; there are others, who perceive adversely about drug and always project pessimistic sentiments regarding the medication. Adverse drug reaction has become a grievous barrier to high coverage during MDA exercise (Weerasooriya, 2007). A

research in Southern India identified an adverse drug reaction (Cantey, 2010) As revealed in the findings of the study, some participants stated that, side effect of the drug was their rationale for not participating in the MDA for LF exercise. Since some of the previous testimonies on oral vaccines and inoculations were scary and created enough fear among the people about such drugs, there was no way people would like to take chances by participating in any other MDAs exercise. For instance, drugs for eliminating Yell Fever or Swan Flu (H1N1) speculated a lot of unpleasant rumors about its adverse reaction hence preventing some people from partaking any other exercise meant for MDA (Ramaiah, 2011).

Lack of communication always creates gaps in the information dissemination among community members (Babu & Satyanarayana, 2003). This is illustrated in a study conducted in Sri Lanka where inadequate communication created huge gaps hence, barrier to high coverage (Vinson, Berman, Patel, Hickey, & Found, 2006). Study findings revealed that, lack of communication has created a lot of misconceptions in the minds of the community members, which is contrary to the actual facts concerning MDA for LF among participants. In this regard, such contradictions will not only fuel the existing speculation but also, misinform community members about the exercise thereby preventing them from participating which eventually resulted in a barrier to high coverage during MDA for LF exercise. Also, lack of adequate evaluation after the MDA programme to assess the level of acceptance or otherwise as well resulted another barrier to high coverage during MDA for LF.

Again, there is the perception that every free commodity is of a low quality or drugs used for such exercises are suspected to be close to expiry and therefore usually imported to Africa to get rid of them (Heyland, Hopman, Coo, Tranmer, & McColl, 2000). Findings in the study

discovered that, free commodities are of low quality or near expiry and for that matter imported to Africa to experiment on its efficacy. Therefore, effects are connected to MDA exercise; coincidentally, speculations on some MDAs have imprinted fear in the minds of people and thereby, no amount of words could bring them out from such allusion which has created huge barrier for MDA and crippling the progressive achievement for the set target (Ramaiah, 2011).

Poor planning can result in the failure of an all important exercises (Ramaiah, 2005). Findings in the study revealed that, there was no structured planning for the MDA exercise. Due to that effect, the programme is hurriedly arranged to train health workers and community volunteers few days before the commencement of the exercise. Eventually the purpose for achieving high coverage during MDA is negatively affected because of their inadequate planning.

Inadequate motivation for field personnel has also been counterproductive for all other MDA exercises including MDA for LF programme (Mathauer & Imhoff, 2006). A similar study conducted in Kenya and Benin exposed that, inadequate motivation to health workers tends to become a challenge in Africa. The findings in the study revealed that, there were no specified remuneration among health field workers and the community trained volunteers which has resulted in the sharing of the same meager amount of money for all categories of workers leading to some acrimony between the health service providers and the community recruited volunteers and this has negatively impacted on how volunteers deliver their services. Definitely, a person with low motivation will not put up his or her best in achieving the set target for the programme leading to barriers to high coverage in urban community.

Finally, inadequate provision of logistics for identified community recruited volunteers serves as hindrances for the discharge of their duties effectively (Oloruntoba, 2006). Amazingly a similar study conducted in Brisbane in Australia supported the argument that, inadequate logistic is bound to create a challenge. Findings in the study revealed that oftentimes, MDA exercise does not give the appropriate logistics such as branded attire, and other minor but very appreciative logistics such as Certificate of Participation and branded briefcase or handbags which might serve as a souvenir to the field workers after the exercise which will serve as an additional incentive to boost their morale for the next exercise.

5.2 Study limitations

The first limitation of this study was reaching the various participants especially the health providers through their cell phones and gathering of other community members for the FGDs. The size of the district created a high constraint for the researcher since the participants were from various communities of the district. The other limitation was getting the appropriate venue for the FGD, considering the enormity of the district and its communities in which participants were invited to partake in the discussion. Timing for the study was too limited and thereby putting the researcher under too much pressure in organizing (6) different focus group discussions and other in-depth interviews.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

The study sought to identify various factors that, create barriers to high coverage during mass drug administration for Lymphatic Filariasis in the Nima-Maamobi in the Ayawaso Sub Metropolitan Area in the Greater Accra Region, Accra.

6.1 Conclusions

The study identified (District) community-based factors, drug related factors and health related factors that have become barriers inhibiting high coverage MDA for LF coverage. This study demonstrates that a large number of community members in the endemic areas in Nima-Maamobi District have very little or no knowledge of lymphatic filariasis and those who claimed to have knowledge about the disease, had inadequate knowledge. As a result, awareness was very low and that had affected MDA for LF. Additionally, the study revealed that MDA programme over the years lacked adequate planning needed for publicity, preparation and drug administration exercise. Again, remuneration for health providers and community volunteers (field officers) was so meager hence negatively affecting annual MDA service delivery.

6.2 The Role of Conceptual Framework and the Findings

The findings of the study has therefore confirmed various factors raised in the conceptual framework which were possible to impeded and create barrier to high coverage on MDA for LF. The conceptual framework is made up of three basic factors; Community Related Factors which comprises of misconception and religious beliefs of the disease among community members concerning LF. Similarly, Socio-Cultural Factors which also, generate meanings to the disease as well as building perceptions in the minds of community members about the disease hence leads to Stigmatization and Discriminating against the infected person. Again, Drug Associated Factors which is another serious feature that can possibly cause barriers have been segmented into the following components; Adverse drug reaction, Drugs close to expiry and Low quality of drug. Then, finally, Health Sector Related Factors which are made up Poor planning, Inadequate motivation and Low public awareness.

However, for any MDA programme to be successful, especially LF to achieve its set target to the maximum level, there is therefore the need to pay heed to the enumerated factors above and to address them critically. On the contrarily, if these factors are for one reason or the other are ignored, then, the possibility of the success is bound to become a failure.

6.3 Recommendations

The following recommendations are made after critically examining data derived from the various Focus Group Discussions (FGDs) and individual In-Depth Interviews (IDIs) conducted.

1. Publicity on LF and MDA should be intensified to create appropriate knowledge through the use of social media platforms; Print and Electronic Media; Radio,

Television (telenovela) Advertisement, Documentaries, Organization of regular "health-walk" as well as instituting LF, MDA week to hype awareness. Posters, Bill Boards, T-Shirts, Caps, and even "hand-band" can be used to promote awareness and can as well as utilizing social mobilization strategy such as Information Education Communication (IEC).

2. National Programme Mangers for Lymphatic Filariasis should collaborate with policy makers to institute a policy mandating everybody in the country regardless of nationality or race to partake in the annual drug administration so that, by the year 2020 Lymphatic Filariasis will be totally eliminated in Ghana as planned by W.H.O and W.H.A. They must ensure that, regular field or community evaluation should be conducted after every MDA exercise to assess the effectiveness of the programme.

3. Motivation for health providers and community recruited volunteers who work on the field should be attractive enough, to encourage them to deliver the best of service and especially the community volunteers should be given Certificate of Participation as a means of recognition in order stimulate their maximum dedication and commitment for the exercise.

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APPENDIX

FOCUS GROUP DISCUSSION – Community Mass Drug Administration

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

The information to be collected would assist and inform (us) researcher to understand why urban drug coverage is still low, despite all the extensive effort exerted into the MDA control programme and how to improve coverage.

If you agree to part-take in this research study, you would be requested to meet with other participants for a group discussion on the designated issues in accordance with your knowledge of the MDA and your reaction towards the study. The discussion would last for two hours, would be recorded, transcribed and translated into English Language for further analysis. Names would not be mentioned or stated in the transcripts and therefore whatever responses provided would not have any link to the respondent. The research team are the only people who would have possession of the transcripts. Your participation in this study is not obligatory, hence at your absolute will thus, you may decide to pull out of the study at any time you so desire. As result your refusal to further participate would not affect you in any way.

Regarding the above information, would you like to part-take in this group discussion?

Yes ☐ No ☐

If you agree to participate in this study, please indicate your name and sign or thumbprint as below:

……..... …….…… ……..……..……

Name of participant Signature Date

…….. …….. …….

Name of interviewer Signature/thumbprint of interviewer Date

please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

FOCUS GROUP DISCUSSION – Health Sector Community Volunteers

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

The information to be collected would assist and inform (us) researcher to understand why urban drug coverage is still low, despite all the extensive effort exerted into the MDA control programme and how to improve coverage.

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Regarding the above information, would you like to part-take in this group discussion?

Yes ☐ No ☐

If you agree to participate in this study, please indicate your name and sign or thumbprint as below:

……..... ……..…… ……..……..……

Name of participant Signature Date

…….…… …….. ……

Name of interviewer Signature/thumbprint Date

of interviewer

please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

Focus group discussion guide

(Community member)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Demographic characteristics

Age:……..……... Sex:…….

Marital status:…….. Religion:…….

Education:…… Occupation:……

1. What are some of the key factors that inhibit coverage of mass drug administration of lymphatic filariasis in Nima-Maamobi?

2. How serious is the prevalence of the disease in this community (how is the impact on the issues of disease burden?

3. What are some of the social cultural implications associated to the disease in this community (personal factors, environmental factors, socio-cultural, religious factors) etc.

4. What are the economic and environmental challenges that are characterised with the disease in his community?

5. How do community, family and close associate relate to people with the disease? (the nature of stigmatization)

KEY INFORMANT INTERVIEW GUIDE – Health Provider (Programme Manager)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

The information to be collected would assist and inform (us) researcher to understand why urban drug coverage is still low, despite all the extensive effort exerted into the MDA control programme and how to improve coverage.

If you agree to part-take in this research study, you would be requested to meet with other participants for a group discussion on the designated issues in accordance with your knowledge of the MDA and your reaction towards the study. The discussion would last for two hours, would be recorded, transcribed and translated into English Language for further analysis. Names would not be mentioned or stated in the transcripts and therefore whatever responses provided would not have any link to the respondent. The research team are the only people who would have possession of the transcripts.

Your participation in this study is not obligatory, hence at your absolute will thus, you may decide to pull out of the study at any time you so desire. As result your refusal to further participate would not affect you in any way.

Regarding the above information, would you like to part-take in this group discussion?

Yes ☐ No ☐

If you agree to participate in this study, please indicate your name and sign or thumbprint as below:

……..... ……..…… ……..……..……

Name of participant Signature Date

…… …….. …….

Name of interviewer Signature/thumbprint Date

of interviewer

please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

KEY INFORMANT INTERVIEW GUIDE – Health Provider (Programme Manager)

Thank you for accepting to be part of this interview for the study. Do I have your permission to start now?

Barriers to High Coverage of Mass Drug Administration

1. What are some of the reasons why urban (Nima-Maamobi) community still face the challenge of low coverage to MDA? Probe – Is it because the urban mobility is high and that people leave their residence very early in the morning for their occupational activity and so the drug administers meet residents absence?
2. Could it be that, majority of the residents do not see the importance of the MDA? Probe Is it because, some community members feel they do not have the disease why then should they take the medication?
3. Could it also be the problem of the fear of side-effect of the drug thus the fear of future harm of the drug?

Enquiry and suggestions for MDA control Programme

1. How effective is the training given to the volunteers? Are the volunteers well informed about the services they are conducting?
2. How appreciable are the volunteers in terms of remuneration (allowance)? Does the volunteers perceive they are been exploited by not given what is due them?
3. How committed are the volunteers? Do they deliver this service whole-heartedly without grumbling?

Thank you very much for your time.

KEY INFORMANT INTERVIEW - Community Opinion Leader

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

The information to be collected would assist and inform (us) researcher to understand why urban drug coverage is still low, despite all the extensive effort exerted into the MDA control programme and how to improve coverage.

If you agree to part-take in this research study, you would be requested to meet with other participants for a group discussion on the designated issues in accordance with your knowledge of the MDA and your reaction towards the study. The discussion would last for two hours, would be recorded, transcribed and translated into English Language for further analysis. Names would not be mentioned or stated in the transcripts and therefore whatever responses provided would not have any link to the respondent. The research team are the only people who would have possession of the transcripts.

Your participation in this study is not obligatory, hence at your absolute will thus, you may decide to pull out of the study at any time you so desire. As result your refusal to further participate would not affect you in any way.

Regarding the above information, would you like to part-take in this group discussion?

Yes ☐ No ☐

If you agree to participate in this study, please indicate your name and sign or thumbprint as below:

……..... ……..…… ……..……..……

Name of participant Signature Date

…… …….. …….

Name of interviewer Signature/thumbprint Date

of interviewer

please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

KEY INFORMANT INTERVIEW GUIDE - Community Opinion Leader

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Thank you for accepting to be involve in this interview. Could you please permit me to begin now?

Community awareness for the MDA control programme.

1. Are you aware of the annual MDA control programme for the disease lymphatic filariasis?
2. How do the people (community members) accept the MDA control programme? Do they see the importance of the programme?
3. Are the people aware of their level of susceptibility in relation to LF

APPENDICES

APPENDIX A

CONSENT FORM

Project Title:
BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN NIMA-MAAMOBI OF AYAWASO SUB-METROPOLITAN AREA IN THE GREATER ACCRA REGION.

Institutional Affiliation:
School of Public Health,

College of Health Sciences

University of Ghana

Legon

Background
Personal Introduction:

The Lead Investigator is Pearl Mina Akoto-Bamfo, currently a masters student of the School of Public Health, Legon and conducting a study on the barriers to high coverage of mass drug administration for lymphatic filariasis (lf) control programme in Nima-Maamobi in Ayawaso sub-metropolitan area in the Greater Accra region.

This study is for academic purposes and a requirement for the award of Master of Science Degree in Applied Health Social science Degree and supervised by Dr. Phyllis Dako-Gyake of School of Public Health, University of Ghana, Legon.

Procedure

An interview will be conducted using an in-depth interview guide. The interview will be tape-recorded with your permission. This tape-recorded will be kept until the time the degree has been awarded after which it will be destroyed.

Risks and Benefits

There are no reasonably foreseeable harm that may arise from participating in this research while benefits that may arise include a greater contribution to the development of policies to control LF in Ghana.

Right to refuse:

Although there are no known risks associated with the research protocols, if you feel uncomfortable you have the liberty to opt out. You are also at will to withdraw from participating if you desire to do so.

Anonymity and confidentiality:

You are assured that the information collection will be handled with the strictest confidentiality, will not be shared with third parties not directly involved in the research and thus will be used purely for academic purposes.

Before taking consent:

Do you have any questions that you wish to ask? If yes, questions to be noted.

If you have question you wish to ask later, or anything you wish to seek clarification on regarding the research, please do not hesitate to contact the principal investigator (Pearl Mina Akoto-Bamfo) on telephone number: **0246871409.** You can also contact the academic supervisor on **gyekenay@yahoo.com**

APPENDIX B

IN-DEPTH INTERVIEW (Community members)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Demographic characteristics

Age:……..……... Sex:…….

Marital status:…….. Religion:…….

Education:…… Occupation:……

IN-DEPTH INTERVIEW (IDI) Guide

Awareness of drug distribution

1. Has there been any mass drug distribution in this community recently? (probe further on how long ago was this done?, What was the purpose of the drug?
2. How did you get to know about the distribution exercise (probe further on adequacy of information provided and the person who did the distribution)

Process of drug distribution

1. How was the distribution done? (Probe for Pre distribution exercises, time of the day and feasibility Strategy used and feasibility)
2. In your opinion did everyone in the community receive the drugs? (probe further on category of people who received the drug and those exempted)

Opinion about drug distribution

1. Were you satisfied with the present way of drug distribution?
2. What suggestions do you have for improving future distribution exercises in terms of Sensitisation, strategy, timing, distributors?

Community factors

1. What are some of the social cultural implications associated to the disease in this community (probe further on personal factors, environmental factors, socio-cultural, religious factors).

Disease related stigma

2. What are the economic and environmental challenges that are characterised with the disease in his community?
3. How do community, family and close associate relate to people with the disease? (the nature of stigmatization)

FOCUS GROUP DISCUSSION GUIDE– Community Mass Drug Administration

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE AYAWASO SUB-METROPOLITAN AREA IN THE GREATER ACCRA REGION

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

The information to be collected would assist and inform (us) researcher to understand why urban drug coverage is still low, despite all the extensive effort exerted into the MDA control programme and how to improve coverage.

If you agree to part-take in this research study, you would be requested to meet with other participants for a group discussion on the designated issues in accordance with your knowledge of the MDA and your reaction towards the study. The discussion would last for

two hours, would be recorded, transcribed and translated into English Language for further analysis. Names would not be mentioned or stated in the transcripts and therefore whatever responses provided would not have any link to the respondent. The research team are the only people who would have possession of the transcripts. Your participation in this study is not obligatory, hence at your absolute will thus; you may decide to pull out of the study at any time you so desire. As result your refusal to further participate would not affect you in any way.

Regarding the above information, would you like to part-take in this group discussion?

Yes ☐ No ☐

If you agree to participate in this study, please indicate your name and sign or thumbprint as below:

……..... …….…… ……..……..……

Name of participant Signature Date

…… …….. ……

Name of interviewer Signature/thumbprint of interviewer Date

Please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

FOCUS GROUP DISCUSSION GUIDE– Health Sector (Community Volunteers)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) CONTROL PROGRAMME IN NIMA-MAAMOBI IN THE AYAWASO SUB-METROPOLITAN AREA IN GREATER ACCRA REGION.

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

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Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

FOCUS GROUP DISCUSSION GUIDE (Community members)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Demographic characteristics

Age:……..……... Sex:…….

Marital status:…….. Religion:…….

Education:…… Occupation:……

FGD Guide

Awareness of drug distribution

1. Has there been any mass drug distribution in this community recently? (probe further on how long ago was this done?, What was the purpose of the drug?
2. How did you get to know about the distribution exercise (probe further on adequacy of information provided and the person who did the distribution)

Process of drug distribution

3. How was the distribution done? (Probe for Pre distribution exercises, time of the day and feasibility Strategy used and feasibility)
4. In your opinion did everyone in the community receive the drugs? (probe further on category of people who received the drug and those exempted)

Opinion about drug distribution

5. Were you satisfied with the present way of drug distribution?
6. What suggestions do you have for improving future distribution exercises in terms of Sensitisation, strategy, timing, distributors?

Community factors

7. What are some of the social cultural implications associated to the disease in this community (probe further on personal factors, environmental factors, socio-cultural, religious factors).

Disease related stigma

8. What are the economic and environmental challenges that are characterised with the disease in his community?

9. How do community, family and close associate relate to people with the disease? (the nature of stigmatization)

KEY INFORMANT INTERVIEW GUIDE – Health Provider (Programme Manager)

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) CONTROL PROGRAMME IN NIMA-MAAMOBI IN THE AYAWASO SUB-METROPOLITAN AREA IN GRREATER ACCRA REGION.

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Name of participant Signature Date

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Name of interviewer Signature/thumbprint of interviewer Date

Please, do not hesitate to contact the researcher using the contact address stated below:

Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

Barriers to High Coverage of Mass Drug Administration

4. What are some of the reasons why urban (Nima-Maamobi) community still face the challenge of low coverage to MDA? Probe – Is it because the urban mobility is high and that people leave their residence very early in the morning for their occupational activity and so the drug administers meet residents absence?
5. Could it be that, majority of the residents do not see the importance of the MDA? Probe Is it because, some community members feel they do not have the disease why then should they take the medication?
6. Could it also be the problem of the fear of side-effect of the drug thus the fear of future harm of the drug?

Enquiry and suggestions for MDA control Programme

7. How effective is the training given to the volunteers? Are the volunteers well informed about the services they are conducting?
8. How appreciable are the volunteers in terms of remuneration (allowance)? Does the volunteers perceive they are been exploited by not given what is due them?
9. How committed are the volunteers? Do they deliver this service whole-heartedly without grumbling?

Thank you very much for your time.

KEY INFORMANT INTERVIEW - Community Opinion Leader

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) ELEPHANTIASIS CONTROL PROGRAMME IN AYAWASO IN NIMA-MAAMOBI IN THE GA DISTRICT.

Greetings, my name is ……and my colleague is ……..We are here on behalf of the School of Public, University of Ghana, Legon, to invite you to be part of a study that seeks to gather information to understand the various barriers that affect high coverage of MDA for (LF) control programme in the district.

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Pearl Mina Akoto-Bamfo, School of Public Health, University of Ghana, Legon, P. O. Box LG 25, Email – pearl@diplomats.com

KEY INFORMANT INTERVIEW GUIDE - Community Opinion Leader

TITLE:

BARRIERS TO HIGH COVERAGE OF MASS DRUG ADMINSTRATION FOR LYMPHATIC FILARIASIS (LF) CONTROL PROGRAMME IN NIMA-MAAMOBI IN THE AYAWASO SUB-METROPOLITAN AREA IN THE GREATER ACCRA REGION.

Thank you for accepting to be involve in this interview. Could you please permit me to begin now?

Community awareness for the MDA control programme.

4. Are you aware of the annual MDA control programme for the disease lymphatic filariasis?
5. How do the people (community members) accept the MDA control programme? Do they see the importance of the programme?
6. Are the people aware of their level of susceptibility in relation to LF

APPENDIX C

WORK PLAN

ACTITIVITY/MONTH	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**
Proposal presentation	X					
Submission of proposal	X					
Training of research assistants				X		
Data collection				X		
Analysis					X	
Printing and Binding					X	
Presentation of Research Results to the District					X	
Submission of completed work to SPH/Graduate School						x

APPENDIX D

BUDGET

Resources	Quantity/Number of days	Estimated cost (GHC)
Transcription		800
Data analysis		200
Field workers & Snack for (FGD)	4 people for 10 days	800
Photocopy and binding		150
Printing		100
Stationary		50
External Hard Drive	One tarabyte	320
Audio Tape Recorder	one	600
Transportation	Purchase fuel	450
Miscellaneous		150
Total		**3,620**