

**DETERMINANTS OF DRUG UPTAKE DURING MASS DRUG
ADMINISTRATION FOR TRACHOMA IN TURKANA WEST SUB-
COUNTY, TURKANA COUNTY, KENYA.**

BY

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DECLARATION

Declaration by Candidate

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DEDICATION

This thesis is dedicated to my family for their immense support and encouragement during my entire study period.

ABSTRACT

Background: Trachoma is one of the neglected tropical diseases that cause blindness if left untreated. The disease is endemic in 53 countries, where an estimated 325 million people at risk of exposure, with Africa contributing 86% of the burden. In Kenya, trachoma is endemic in 12 out of 47 counties. The World Health Organization (WHO) recommends annual mass drug administration (MDA) using azithromycin for at least 80% of the target population with active transmission. A previous survey indicated there was still 17.5% transmission despite seven rounds of annual MDA done between 2011 and 2021 in Turkana West sub-County. Given the complexity and the distinct population in the sub-County, it is essential to understand the determinants of drug uptake to reduce trachoma transmission in the population.

Objectives: To assess the treatment coverage of MDA and identify sociodemographic, community, and program determinants of drug uptake during MDA for Trachoma in Turkana West sub-County.

Methodology: A cross-sectional study involving a cluster survey using a calculated sample size of 541 households was used to estimate MDA coverage. Household heads were interviewed using a structured questionnaire. To determine the factors associated with uptake, a sample of 87 was randomly selected from those who did not receive treatment and compared with 87 randomly selected from those who received treatment. Frequencies, proportions, and measures for central tendency were calculated for categorical and continuous variables, respectively. Odds ratio (OR) was used as the measure of association and chi-square for statistical significance; associations with a p-value <0.05 were considered statistically significant. Four key informants; the eye coordinator, health promotion officer, community strategy focal person, and pharmacist based at the sub-County trachoma program were interviewed. Qualitative data were analyzed thematically.

Results: A total of 512 respondents were interviewed (94.5% response); the treatment coverage for trachoma was 78% (n=512) from the survey, and the administrative reported coverage was 82% (n=180,885). The mean age of the sampled population (n=174) was 34 years (± 13), with 123 (71%) of them being female and 110 (63%) being married. About 99 (57%) of the participants had no formal education, 135 (78%) had no occupation, and 121 (70%) resided in a settled village. Community factors associated with the increase in drug uptake were awareness of trachoma disease (OR=9.1, p-value<0.001), receiving information on planned MDA (OR=2.66, p-value=0.002), health education sessions (OR=2.22, p-value=0.013). The program factor associated with increased drug uptake during MDA was house-to-house drug distribution strategy (OR=3.36, p-value=0.001). Key informants identified seasonal timings; community sensitization and mobilization; supplies; capacity building and community compliance as influencers of MDA uptake.

Conclusion: The treatment coverage did not meet the WHO recommended target of 80%, and the administrative reported coverage was higher than that of the survey. Being aware of trachoma, having information about planned MDA, attending a health education session and house-to-house strategy increased azithromycin uptake during MDA.

Recommendation: The trachoma program should run effective sensitization campaigns to address the sub-optimal MDA coverage. The program should also employ independent end- process monitoring during MDAs to determine uptake.

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ABBREVIATIONS

AMT:	Azithromycin Mass Treatment
AOR:	Adjusted Odds Ratio
CDD:	Community Drug Distributor
CNTDC:	County Neglected Tropical Disease Coordinator
CO:	Corneal Opacity
MDA:	Mass Drug Administration
OR:	Odds Ratio
SAFE:	Surgical, Antibiotics, Facial Cleanliness and Environment Improvement
SCHMT:	Sub-county Health Management Team
TF:	Trachoma Follicular
TI:	Trachomatous Inflammation
TS:	Trachomatous Scarring
TT:	Trachomatous Trichiasis
WHO:	World Health Organization

DEFINITION OF TERMS

Administrative Treatment Coverage: The proportion of a population in Turkana West sub-County reported by the sub-County Trachoma Program to have received azithromycin during the Mass Drug Administration for Trachoma in September 2022.

Azithromycin: A broad-spectrum antibiotic belonging to the macrolide class of drugs. It is commonly used to treat various bacterial infections, including respiratory tract infections (such as pneumonia and bronchitis), skin infections, ear infections, sexually transmitted infections (like chlamydia), and specific gastrointestinal infections.

Azithromycin Mass Treatment (AMT): The large-scale administration of azithromycin to entire populations or specific high-risk groups, regardless of individual infection status, as a public health strategy to control, eliminate, or prevent trachoma infections in endemic areas.

Community Health Unit (CHU): A decentralized health delivery (service) structure that provides primary healthcare and preventive services to communities.

Drug Uptake: The extent to which a drug is accepted and consumed (swallowed) by individuals within the target population under directly observed therapy.

Emancipated Minor: Individuals younger than 18 years who are financially self-sufficient, living independently or with their own family, and can make independent decisions about their own participation in research.

Individual Treatment Coverage: The proportion of individuals (self-reported) in Turkana West sub-County who receive Azithromycin during Mass Drug Administration for Trachoma in September 2022.

Mass Drug Administration (MDA): A public health strategy that involves the distribution of medications to entire populations or specific high-risk groups in a defined geographic area, regardless of individual disease status.

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CHAPTER ONE

1.0 INTRODUCTION

This chapter introduces a general overview of the impact of trachoma disease in the global, regional, national, and local context. It outlines the study's problem statement, justification, and objectives.

1.1 Background

Trachoma is a worldwide blinding, contagious bacterial infection caused by *Chlamydia trachomatis* (Satpathy et al., 2017). The spread of the infectious bacteria is through contact with an infected person's ocular and nasal secretions; children are the reservoirs for *C. trachomatis* (Williams et al., 2020). The damage to the corneal caused by the eyelid conjunctival scarring occurs after repeated trichiasis infections, which causes blindness (Williams et al., 2020). Flies, fingers, and sharing of clothes or towels contaminated with *C. trachomatis* are associated with the transmission of trachoma (Amadi, 2018). Several symptoms, including red, itchy eyes with scanty mucosal purulent discharge and foreign body sensation characterize the disease (Mohammadpour et al., 2016). Trachoma has been clinically graded as Follicular Trachoma (TF), Trachomatous Inflammation-Intense (TI), Trachomatous Scarring (TS), Trachomatous Trichiasis (TT) and corneal opacity (CO) (Solomon et al., 2020). Blinding trachoma is prevalent in many of the world's poorest and most remote rural areas, affecting 53 countries (Gyapong & Boatin, 2016). Trachoma is a global public health problem affecting 44 countries, with 137 million people at risk of blindness resulting from trachoma in endemic zones. It is attributed to the visual impairments and blindness of about 1.9 million people and the Disability-Adjusted Life Years (DALYs) of trachomatous visual loss, yielding 39 million lifetimes (Melkie et al., 2020). Africa

contributes to 86% of the global trachoma burden, with 117 million people at risk and needing interventions in 26 out of 47 countries (WHO, 2021).

Kenya confirmed trachoma as a disease of public health concern in 2004; this was based on the first trachoma survey and subsequent surveys conducted between 2007 and 2012, which found trachoma to be endemic in 12 out of 47 counties in Kenya, with approximately 7 million people at risk (Ilako et al., 2022). Kenya's twelve trachoma-endemic counties include Baringo, Turkana, Kajiado, Samburu, Laikipia, Meru, Narok, West Pokot, Embu, Kitui, Isiolo, and Marsabit (Ilako et al., 2022; Ministry of Health, 2022). It was estimated that 41,500 people in these 12 counties were at risk of progressive trachoma blindness without surgery, a preventive intervention strategy. This led to the establishment of the Kenya Trachoma Elimination Program (KTEP) in 2014, a five-year programme that aimed to eliminate trachoma by 2019 by implementing the SAFE strategy (Ilako et al., 2022).

Turkana County has the highest prevalence of trachoma in Kenya; trachoma remains endemic in the county (Clare Gilbert, 2013). The Trachoma impact assessment conducted in Kenya in 2017 by the Ministry of Health revealed that trachoma was still prevalent, with Samburu, Marsabit, Kajiado, West Pokot, and Turkana counties having a trachomatous inflammation-follicular (TF) of more than 5%. Turkana West sub-County was leading with a TF of 17.5%, followed closely by Kacheliba sub-County (13.8%), Loima sub-County (11.5%), Sigor sub-County (10.3%) and Kajiado West sub-County (9.73%) (Ministry of Health, 2022).

Trachoma, being a public health problem, had been targeted for elimination (Ilako et al., 2022). The World Health Organization (WHO) had earmarked 2020 for the global elimination of trachoma, but many countries, including Kenya, missed the mark. Failure to meet the 2020 targets was attributed to the COVID-19 pandemic that

affected all trachoma elimination activities (WHO, 2021). A package strategy intervention called **S**urgical, **A**ntibiotics, **F**acial cleanliness, and **E**nvironmental improvement (SAFE) is an innovative and multifaceted public health approach endorsed by the World Health Organization to treat and prevent trachoma (Gyapong & Boatin, 2016). Effective implementation of components under the SAFE strategy is paramount for the sustainable elimination of trachoma (Jimenez et al., 2015). Kenya has been implementing the complete SAFE strategy or components of it in the twelve trachoma-endemic counties since 2007, as informed by various trachoma surveys (Ministry of Health, 2022).

WHO recommends using azithromycin in the Mass Drug Administration (MDA) (Shekhawat et al., 2014), a crucial part of the SAFE strategy (Xiong et al., 2021). The MDA targets the entire population, while the coverage of the MDA is based on the population level. For long-term success, achieving high MDA coverage for children is essential (West, 2013). Studies have shown that MDAs significantly reduce the prevalence of trachoma (Shekhawat et al., 2014). However, the effectiveness of azithromycin in MDAs depends on the location's epidemiology and the baseline trachomatous inflammation-follicular (TF) prevalence (Xiong et al., 2021). WHO recommends that the trachoma MDAs campaign or program coverage reach at least 80% of the targeted population (Astale et al., 2018). In addition, WHO recommends three to five years of annual azithromycin (antibiotics) mass administration for areas with a trachomatous inflammation-follicular (TF) of more than 10% in children between 1 and 9 years; the annual azithromycin MDA can only be halted when the TF falls below 5% (Xiong et al., 2021).

In Kenya, trachoma MDA campaigns have been ongoing in endemic trachoma counties. The MDA campaigns have been based on prevalent trachoma subcounties: Kalobeyei

Refugee Camp, Turkana West and Loima in Turkana County; Pokot Central (Sigor) and Pokot North (Kacheliba) in West Pokot County; Tiaty in Baringo County and Kajiado South in Kajiado County which require one round of annual azithromycin MDA. Kajiado Central and Kajiado West sub-Counties in Kajiado County require two annual azithromycin MDA, respectively (Ministry of Health, 2022).

Turkana County had five rounds of annual azithromycin MDA campaigns from 2011 to 2016, with a treatment coverage of 71% in 2011, 81% in 2012, 84% in 2013, 87% in 2014, and 86% in 2015 (Ministry of Health, 2021).

In Turkana West sub-County, two other trachoma MDA campaigns were conducted, with the recent trachoma MDA conducted in 2021 targeting the host population and the Kalobeyei Refugee camp. As a result, the MDA coverage for the host population and Kalobeyei Refugee camps was 87% and 90.5%, respectively (Ministry of Health, 2021). This study aimed to assess drug uptake during the Mass Drug Administration (MDA) for Trachoma in Turkana West sub-County in Turkana County.

1.2 Problem Statement

A trachoma MDA survey conducted in Turkana County in 2017 revealed that the prevalence of trachoma is still significantly high (17.5%) despite the five rounds of annual azithromycin trachoma MDA campaigns undertaken between 2011 and 2016 in the whole county (Ministry of Health, 2021). WHO recommends 80% treatment coverage for three to five years of annual azithromycin (antibiotics) mass administration for counties or sub-Counties with a trachomatous inflammation-follicular (TF) more than 10% in children aged between 1 and 9 years. The annual azithromycin MDA can only be halted when the TF falls below 5% in the respective county or sub-County (Xiong et al., 2021).

The MDA survey conducted in 2017 showed that Turkana County's TF had dropped from 2010's Baseline TF of 33.3% to 9.6%. However, there was still active transmission of infections in Turkana North sub-County (9.31%), Loima sub-County (11.54%), and Turkana West sub-County (17.5%), indicating that the threshold to interrupt trachoma transmission was not attained and the implementation of trachoma MDA campaigns in these areas was not successful. Five annual azithromycin MDA campaigns were conducted in Turkana County (Ministry of Health, 2022), but trachoma still prevailed. The evidence of continued active disease transmission in the population, even after further implementation of two additional rounds of trachoma MDA campaign targeting Turkana North, Loima, and Turkana West sub-Counties, implied an increased risk of further transmission at the community level (Ministry of Health, 2021). In addition, a study by Last *et al.*, revealed that the burden of circulating trachoma infection would likely reduce with a single dose of annual azithromycin MDA. However, a single dose of azithromycin is unlikely to significantly reduce trachoma levels after a year (Last et al., 2017). According to mathematical models, if coverage is less than 80%, hyper-endemic communities will require more than seven years of annual MDA to achieve a trachoma prevalence of less than 5% (Shekhawat et al., 2014). Furthermore, the continued long-term effects such as blindness and visual impairments lead to disabilities, negative economic impacts, and antimicrobial resistance resulting from community exposure to antibiotics over a long period.

As a result, it is essential to explore details on the reported trachoma MDA coverage and identify the factors determining drug uptake during the MDA campaigns. Therefore, this study aims to assess the coverage and identify determinants of drug uptake during MDA for trachoma.

1.3 Justification of the Study

A survey on trachoma conducted between April and June 2017 in Kenya shows Turkana West sub-County has the country's highest trachoma prevalence (17.5%) despite implementing seven rounds of annual azithromycin MDA campaigns in the sub-County (Ministry of Health, 2021). Turkana West is a unique sub-county hosting two refugee camps and the host. There are different nationalities with distinct cultures and practices; thus, it was necessary to understand the determinants of drug uptake among the population.

A study by Mtuy *et al.*, reveals that there are yet to be studies detailing the trachoma MDA from a political economy perspective and the complex livelihoods of the nomadic population confronted with social and political challenges affecting their interaction with the Trachoma Program. The study also indicated that reflections on social-cultural, economic, and political issues influence the effectiveness of the public health approach, and MDA for Trachoma is limited in trachoma hyperendemic hard-to-reach communities (Mtuy et al., 2021). Consequently, considering the complexity and distinct population in Turkana West sub-County, the study findings would give insights into the fundamental determinants of drug uptake during MDA for Trachoma.

The study findings would also be a benchmark to inform the national, county government, and health partners on areas to intensify interventions for eliminating Trachoma in Turkana West sub-County. Furthermore, the determinants of drug uptake in MDA for Trachoma campaigns would inform proper planning, execution, and achievement of adequate treatment coverage whilst reducing non-compliance to azithromycin in its efforts to eliminate trachoma. This would shed light on fundamental areas of improvement to attain optimal and recommended coverage during the

implementation of MDA for trachoma campaigns and the targeted elimination of trachoma by 2023 in Turkana County.

1.4 Research Question

What are the determinants of drug uptake during the Mass Drug Administration (MDA) for Trachoma in Turkana West sub-County?

1.5 Study Objectives

1.5.1. Broad Objective

To assess the determinants of drug uptake during Mass Drug Administration for Trachoma in Turkana West sub-County.

1.5.2. Specific Objectives

- a) To assess the treatment coverage during MDA for trachoma in Turkana West sub-County
- b) To determine the sociodemographic factors associated with drug uptake during MDA for Trachoma in Turkana West sub-County
- c) To assess the program factors influencing drug uptake during the MDA for trachoma in Turkana West sub-County.
- d) To assess the community factors influencing drug uptake during MDA for trachoma in Turkana West sub-County.

CHAPTER TWO

2.0 LITERATURE REVIEW

The chapter discusses four section areas that are aligned with the study objectives. A comparative analysis was conducted using desk review to confirm findings from related studies. One section constitutes an introduction to the general overview of the trachoma perspective. It reviews the impacts of trachoma and existing control and prevention strategies from global, regional, and local situation perspectives, respectively. Three sections comprehensively review and interrogate the existing literature on the determinants of drug uptake and discussed factors influencing drug uptake during mass drug administration for trachoma.

2.1 Perspective on Trachoma

Trachoma is one of the predominant neglected tropical diseases attributed to blindness worldwide. *Chlamydia trachomatis*, a contagious eye infection bacteria-causing Trachoma, is spread by direct contact through discharges from the eyes and nose from infected individuals and contact with fomites or eyes-seeking flies. Repeated infections lead to eyelid inflammation, which causes scarring and constriction of the upper eyelids, a precursor to loss of vision, resulting from the inwardly pulled eyelashes scratching and tearing the cornea, leading to blindness (Travers et al., 2013). Trachoma is endemic in 53 countries, of which an estimated 325 million people are at risk of exposure to the disease (Bekuma et al., 2019). It has been associated with visual impairments in 2.2 million people worldwide, of which irreversible blindness was endured by 1.2 million (Travers et al., 2013).

The elimination of trachoma disease is determined by effectively implementing the SAFE strategy (Jimenez et al., 2015). SAFE is a WHO-recommended strategy that incorporates Surgery, Antibiotics, Face cleanliness, and Environmental improvement

in the global prevention, control, and elimination of trachoma (Xiong et al., 2021). The strategy includes treating the end-stage of trachoma through surgery to prevent blindness, mass distribution of antibiotics to reduce infection reservoirs, and eliminating risk factors that promote transmission through facial cleanliness and environmental changes (Travers et al., 2013). The effective implementation of each component of the SAFE strategy is essential for achieving the sustainable elimination of the disease (Jimenez et al., 2015). The SAFE approach attempts to stop disease transmission at all levels and eliminate its reoccurrence through a multifaceted methodical initiative (Travers et al., 2013). Individual infections can successfully be cleared by treatment with azithromycin (Jimenez et al., 2015), except for children under six months, for whom tetracycline eye ointment (TCC) should be administered (Mulugeta et al., 2018). However, the mass drug administration (MDA) coverage and the concurrent implementation of hygiene education and environmental improvements are some of the many factors that affect the impact of MDA in the targeted population. Since households and social groups are active trachoma clusters, efforts to interrupt transmission and control infections should be community-based (Jimenez et al., 2015).

WHO recommends annual mass drug administration for the entire population for three or more years if the prevalence of active transmission is above 10% (Travers et al., 2013). It further recommends that the MDA reach at least 80% of the target population. Additionally, MDA can only be halted when the prevalence of trachoma falls below 5% (Xiong et al., 2021). According to mathematical models, if coverage is less than 80%, hyper-endemic communities will require more than seven years of annual MDA to achieve a trachoma prevalence of less than 5% (Shekhawat et al., 2014). MDA effectively reduces the prevalence and transmission of trachoma infections due to the inclusive nature of the MDA programs. Furthermore, it ensures the efficiency of WASH

interventions under the “F” and “E” SAFE strategy components, preventing the likelihood of re-emergence of the public health problem. In addition, the azithromycin treatment administration in community control programs is easily implemented through height-based dosing (Travers et al., 2013). In this regard, it is imperative that the four SAFE strategy components be implemented simultaneously to achieve desirable results.

Although trachoma-endemic countries have made strides in the elimination of trachoma as a public health problem, the global displacement of populations from endemic areas could impact global trachoma elimination progression (Sanders et al., 2019). Several endemic countries have reported achieving the elimination goals and are preparing their documentation for assessment and potential validation. This represents at least one validated country in each trachoma-endemic WHO region, highlighting the effectiveness of the SAFE strategy across diverse settings. The impact of trachoma extends beyond prevalence rates or blindness. In endemic regions, the economic costs of trachoma are significant, estimated at an annual productivity loss of USD 2.9 billion, attributed to vision impairment (Gyapong & Boatin, 2016). However, despite adhering to the SAFE strategy, some countries have been striving to eliminate trachoma for 20 years but have yet to succeed (Renneker et al., 2022). According to the United Nations High Commissioners for Refugees (UNHCR), currently, the world is witnessing unprecedented levels of displacement worldwide, with 68.5 million individuals classified as forcibly displaced in 2017 (Sanders et al., 2019). Progress could have been faster in these countries and others despite efforts. Despite countries making substantial progress in reducing the number of individuals at risk of trachoma, the global objective of eliminating trachoma as a public health concern by 2020 remained unmet (Renneker et al., 2022).

The effectiveness of azithromycin in reducing trachoma during MDA is dependent on local epidemiology and baseline trachoma prevalence (Xiong et al., 2021). It is evident that mass administration of azithromycin effectively reduces mortality in children with trachoma at the population level (Gatimu & Kimani, 2021).

The complexity of MDAs has made it challenging to identify barriers and facilitators affecting the capacity of the MDA program to achieve the recommended targets. In addition, the interaction of various components and organizations that differ in influence is involved in MDA implementation for a non-linear outcome. Consequently, multiple factors might influence the outcomes of MDA (Torres-Vitolas et al., 2021).

2.2 Socio-demographic factors associated with drug uptake

Studies show that the prevalence of Neglected Tropical Diseases (NTDs) often resurges in the absence of socio-economic changes despite the decrease of trachoma in the communities. Moreover, the reoccurrence of infection in respect of the movement of a high-volume population, as seen in trachoma-endemic migrant communities, should be considered during MDAs (Mtuy et al., 2021). The initiative efforts for trachoma control rely on the community's comprehension of trachoma disease and behavioural change. Moreover, understanding the community's perspective on social-cultural factors is essential in designing and developing successful control interventions and promoting the adoption of the SAFE strategy (Mtuy et al., 2019).

Understanding the marginalized hard-to-reach communities' economic, political, and social context is critical in tailoring the required disease control and prevention approach. The tensions between the local cultural demands and national targets often arise in neglected communities during disease control. Furthermore, the socio-political driving factors challenge the control efforts of neglected tropical disease transmission in marginalized communities (Mtuy et al., 2021).

Socio-demographic factors such as education, employment, age, and others are determinants of drug uptake during MDAs. For instance, with education, those who have completed college and above are seven times more likely to take azithromycin during MDA than those without formal education. Accessing and understanding the information regarding the disease and the message provided is a possible explanation (Feyisa et al., 2022). Compliance with drug uptake during MDA has also been linked to occupation, land ownership, income level, and religion across various countries (Mhiche, 2019).

Most of the studies revealed that females were more compliant with the uptake of azithromycin during MDA than males (Feyisa et al., 2022). The higher compliance in women might be related to experience, particularly trachoma patient blinding complications that frequently affect more women than men (Desmond et al., 2005). Men tend to travel and spend more time outdoors, limiting their information access and presence during MDAs. The disregard for distributors' advice by boys and men was also noted in Uganda (Torres-Vitolas et al., 2021). Consequently, studies reveal that drug uptake is higher in rural areas than in urban areas during MDAs (Feyisa et al., 2022). A review of the relationship between age and treatment coverage in Sub-Saharan Africa during MDA rendered unclear results (Torres-Vitolas et al., 2021). However, regarding the age group factor, studies in Ethiopia revealed that the older age group is more likely to participate in azithromycin MDA than the younger age group (Tilahun & Fenta, 2018).

2.3. Program factors influencing drug uptake

The impacts of preventive chemotherapy in reducing the transmission of Neglected Tropical Diseases (NTD) have documented significant gains in public health (Krentel et al., 2017). The program organization plays a substantial role in community

compliance during MDAs. The coverage and performance of MDA are inclined to key programmatic factors such as management and recording of drug supplies. The supply of adequate drugs for MDA and human resources training on computing and recording data during MDA has been challenging (Mhiche, 2019). Additionally, the programme's equity and acceptability are determined by the interaction of gender norms, and religious and traditional beliefs (Adekeye et al., 2020).

According to the WHO Report on Global Trachoma Elimination, the involvement of relevant stakeholders in social mobilization at the community level before the MDA is essential and a crucial element in strengthening efforts in drug uptake (Feyisa et al., 2022). The depiction of successful MDA campaigns reported the use of multiple means and operational features of sensitization, such as communication from public officials at the district level, radio campaigns, leaflets, road shows in urban residences, and community and funeral gatherings, as well as community associations in rural residents (Torres-Vitolas et al., 2021). A study in Ethiopia revealed that community awareness potentially affects drug uptake; lack of financial funding to conduct community mobilisation is a problem related to the acceptability of preventive chemotherapy (Asfaw et al., 2021). Messages on the MDA reduce the fear of side effects and increase azithromycin uptake. Implementing a successful program is determined by effective social mobilization activities for the MDA campaign. In addition, the community's knowledge and awareness of the campaign are increased by using locally translated messages, communication materials, education and other media during health education and promotion activities (Feyisa et al., 2022). Participation in trachoma MDAs in Ethiopia has regularly been demonstrated to be significantly influenced by community awareness about impending MDAs (Ebert et al., 2019).

Treatment coverage is greatly affected by sensitization programme-level decisions. Sometimes, the beneficiaries' topics of interest go unaddressed during sensitization campaigns. In addition, studies reveal limitations on the drug distributor's ability to address the beneficiary's doubts due to information gaps during training. A Uganda-based study shows community drug distributors' inability to guide, sensitize and explain treatment to pregnant women due to incomplete training, leading to substantive residents' confusion on eligibility and, thus, dismal outcome coverage. Furthermore, another study in Uganda noticed the lack and absence of trained distributors in some villages (Torres-Vitolas et al., 2021).

The incentives or compensation for drug distributors is a programmatic challenge given its potential effects on performance and attrition. However, some studies' outcomes emphasised that drug distributors focused on immaterial benefits such as enhanced social status resulting from public recognition as a health practitioner and personal satisfaction for helping their communities (Torres-Vitolas et al., 2021).

The livelihoods of pastoralists are centrally impacted by climatic conditions that optimally dictate the timing for community-based interventions. Therefore, to reduce the stress from missed opportunities, draught, distance and frequency of movement of the human population, the MDA should be planned around the seasons (Mtuy et al., 2021). Furthermore, access to and use of preventive chemotherapy are affected by the scheduling of MDA due to the inability of the scheduled rounds of treatment to meet the community's busy working hours (Asfaw et al., 2021).

The implementation of the Mass Drug Administration program typically involves a collaborative approach; this includes training healthcare workers engaged in the drug distribution process, organizing the supply chain efficiently to ensure the timely distribution of drugs, and conducting social mobilization and outreaches at the

community level to maximize coverage in the affected community. The team should also receive adequate technical support from implementing partners (Maritim, 2017). The strategies of drug delivery determine coverage outcomes. Studies suggest better results are derived from door-to-door visits (Torres-Vitolas et al., 2021). Frequent problems reported from mobilizing the whole population on the same day and place for the intervention: lead to drug provider's inappropriate blunders in administering and recording due to the vast population availed for the intervention, which leads to possible long waiting hours for drug administration service (Mulugeta et al., 2018). Consequently, MDA operations are affected by unclear staff structures (Torres-Vitolas et al., 2021).

The inadequate financial incentives for villages and Community Drug Distributors (CDD) have been linked to poor knowledge transfer (Mtuy et al., 2021). Furthermore, the leader's and the community's engagement in other campaigns during the MDA is a barrier to drug uptake. Additional barriers are primarily driven by a shortage of supplies, human power, fasting, rumours, transport constraints, drug side effects, and lack of information on the MDA (Mulugeta et al., 2018).

2.4 Community Factors Influencing Drug Uptake

Community engagement in diverse forms during MDA reportedly facilitates treatment uptake. The authorities' involvement during MDA weighs in on the project: the chief's involvement in MDA sensitisation activities enhances local trust (Feyisa et al., 2022). Health workers are regarded as significant sources of information for trachoma and MDA in districts (Bekuma et al., 2019). Good knowledge of trachoma positively impacts compliance with azithromycin mass drug uptake (Feyisa et al., 2022). In contrast to patient-oriented treatments, which are often self-initiated, drugs administered through campaigns may not achieve full community acceptance for

various reasons (Tilahun & Fenta, 2018). Most studies identified and mentioned fear of side effects as the most salient barrier to treatment uptake during MDA. However, variation was noted in the extent and manner in which participation is affected (Torres-Vitolas et al., 2021). Nevertheless, achieving full community acceptance for mass drug administration poses numerous challenges. These challenges originate from various factors, including insufficient information about the MDA, unaddressed concerns about potential side effects leading to absenteeism during the administration of the drug, and misconceptions about trachoma disease, which contributes to reinfections. In addition, individuals who did not participate in mass treatment campaigns may serve as potential sources of reinfection in their communities (Tilahun & Fenta, 2018). A study in Ethiopia depicted that a person is seventy-five percent less likely to take azithromycin during MDA after hearing about serious adverse effects of the drug from another person than those who did not (Feyisa et al., 2022).

Consequently, misinformation is evident in the community partly from rumours and refusals; for instance, a study in Tanzania documented health intervention rumours of sterility-induced and cancer-causing drugs during the implementation of MDA for trachoma (Mtuy et al., 2021). Pregnancy is an expected additional reason for the non-uptake of the drug (Mulugeta et al., 2018). Household acceptability and adherence to MDA at the community level mainly rely on the voluntary contributions of CDDs; the primary care providers within the community (Agboraw et al., 2021). The poor community knowledge of trachoma and the minimal education provided by the CDDs influence the uptake of treatments (Mtuy et al., 2021). Nevertheless, the health system and program management factors, such as insufficient training and supervision of CDDs by health facility staff, negatively affect CDD's performance (Agboraw et al., 2021). The significant factors in determining uptake include beliefs and knowledge of

trachoma and its treatment, perceptions of the drugs, and norms concerning prevention (Desmond et al., 2005). Furthermore, the CDDs bear direct financial expenditures and costs associated with their involvement in MDA implementation programs. Providing CDDs with access to resources for community sensitization and mobilization for MDA and safety information on the drugs enhances support during MDAs. Additionally, compensation to CDDs to offset the costs incurred during their participation in MDA implementation and facilitating efficient transportation increases CDDs' satisfaction and retention rates (Agboraw et al., 2021). In some communities in Nigeria, gender norms limit male CDD's access to specific households with women without the head of household's permission, which leads to non-treatment (Adekeye et al., 2020). Gaps in communication and information between the community and the CDD are barriers to the coverage and utilisation of MDA. The appropriate strategies for community engagement are contextually vital for drug uptake through community ownership, demand, and trust and encourage a sense of the program (Asfaw et al., 2021).

Different perceptions determine community participation during MDA (Torres-Vitolas et al., 2021). The non-financial factors related to people's perceptions and acceptability of worthy health services, such as the aspects of culture, gender, and religion, impact the equity of preventive chemotherapy (Asfaw et al., 2021). The acceptance of "westernised" medicine or "formal" health interventions is frequently shaped by syncretic belief systems that view the convergence of "medical" and "traditional" understandings of medicines and sickness in different ways and contexts (Adekeye et al., 2020).

Volunteers taking azithromycin mass treatment are five times more likely to comply with azithromycin mass treatment uptake in future campaigns than their counterparts, which is attributed to understanding the general benefits and side effects of

azithromycin mass treatment (Feyisa et al., 2022). The absence during MDA and the program's inability to reach segments in some communities are reasons for the non-uptake: caused by lack of staff and means of transport, limited time and poor accessibility of households. Terrain also exacerbates accessibility challenges for households vulnerable to natural hazards (Mulugeta et al., 2018). Moreover, grazing of animals and migration is reportedly a barrier to medication swallowing (Bekuma et al., 2019).

A study suggests that the drivers of access and equitable preventive chemotherapy are attributed to the availability of community structures and community health workers, awareness creation, cultural and religious organisations, free delivery of drugs and availability of partners to train drug distributors. Additionally, a decentralised government structure and its support system facilitate the uptake of preventive chemotherapy (Asfaw et al., 2021).

The factors mainly affecting the acceptability of the drug include perceptions of expertise on the distribution team, perception of the azithromycin and the drug in general, adverse effects witnessed on others, the quantity and quality of available information, and local prevention norms (Mulugeta et al., 2018).

2.5 Conceptual Framework

Several factors can be associated with the uptake of drugs during mass drug administration (MDA) for trachoma. These factors can be associated with the sociodemographic characteristics of the drug recipient during the MDA. Knowledge and perceptions of trachoma disease and the side effects of the drugs are some of the community factors that can influence compliance or non-compliance of drug uptake during MDA for trachoma. Some program factors such as mobilization and sensitization on MDA for trachoma, training of community drug distributors,

motivation for drug distributors, supply of drugs on time, and support from experts can instil confidence and influence compliance and drug uptake by recipients during MDA for trachoma (Figure 1)

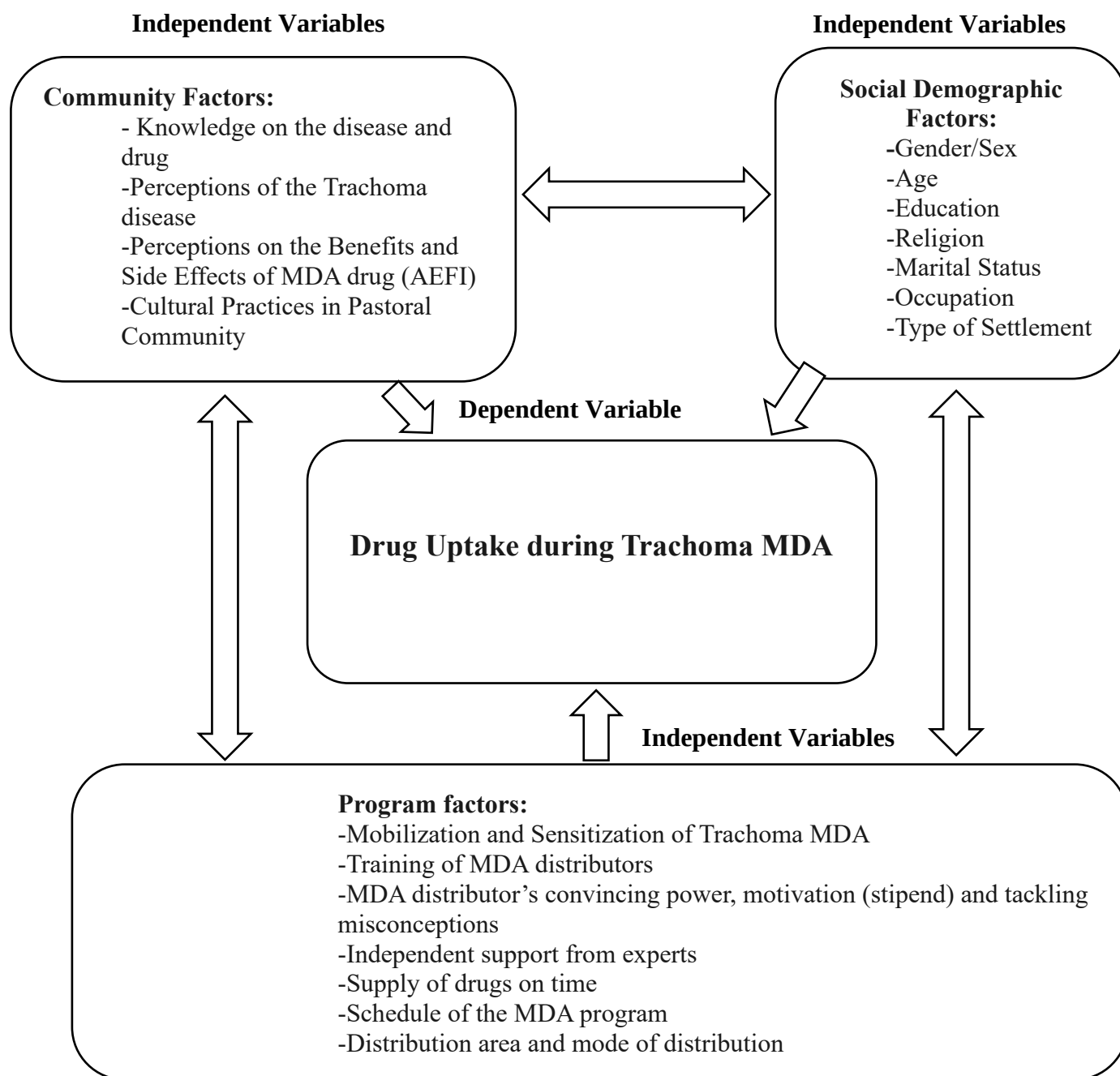


Figure 1: Conceptual Framework on determinants of drug uptake during trachoma MDA; (adapted from (Mhiche, 2019))

CHAPTER THREE

3.0 METHODS

This chapter outlines how the research study was conducted. The study design and procedures, study population, sampling techniques, study area on which data was collected, data collection tools and methods used for data collection, and how data was analyzed are outlined and presented in this chapter.

3.1 Study Area

The study was conducted in Turkana West sub-County. Turkana West sub-County has a population of 260,710 people, including 200,000 refugees. It borders South Sudan to the North and Uganda to the South West. Turkana West sub-County has 8 wards: Lopur, Letea, Kalobeyei, Nanam, Nakalale, Songot, Lokichogio and Kakuma wards. There are 57 health facilities in the sub-County, but these are not all functional. The lack of proper infrastructure and the poor distribution of health services are some factors that affect the utilization of these health facilities. The average distance between the health facility and the households is approximately 10 kilometers. About 60% of the households in the sub-County have access to health services, while 40% are in areas where the lack of health services is severe. There are 43 community health units (CHUs) in the sub-County, equipped with trained community health volunteers tasked with implementing community health services (Ministry of Health, 2021).

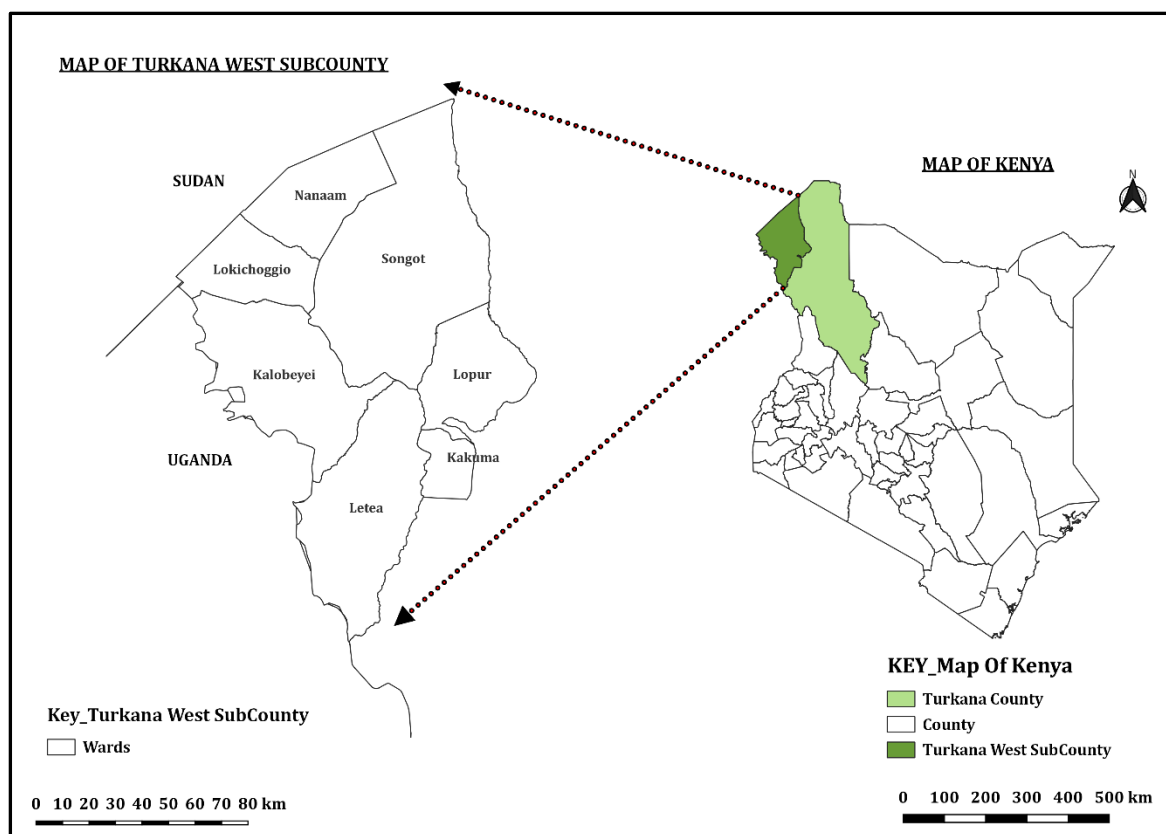


Figure 2: Location of Turkana County, Turkana West sub-County, and its respective wards (Map drawn by Stephen Olubulyera using QGIS Software)

3.2 Study Population

The study targeted 15 years old and above individuals living in Turkana West sub-County.

3.3 Study design

A cross-sectional study design was used to assess the determinants of drug uptake during mass drug administration for trachoma.

3.4 Sample Size Determination

The study had two components: a community survey, which estimated the point prevalence of the azithromycin treatment coverage, and a comparative study, that

compared variables for the participants who took the drug against those who did not during mass drug administration for trachoma.

Therefore, two formulas were used in sample size determination:

- a) Community Survey: Kish-Leslie formula
- b) Comparative study using comparison group: Kelsey *et. al.*, 1996 formula as used in the Maingi *et.al.*, study (Maingi et al., 2023)

3.4.1 Sample size: Community Survey

The Kish-Leslie Formula was used to calculate the anticipated sample size for the community survey. The following formula was used to compute the sample size.

$$N = \frac{g \times Z^2 P (1-P)}{d^2}$$

The calculation was based on the following assumptions:

- a) d = The acceptable margin of error is 5%
- b) P = The proportion of drug uptake during Trachoma MDA in Turkana West sub-County is 80% (Ministry of Health, 2021)
- c) g = Design effect was estimated at 2
- d) Z = 1.96, a standard deviation corresponding to a 95% confidence interval.

$$N = \frac{2 \times 1.96^2 \times 0.8 (1-0.8)}{0.05^2}$$

$$N = \frac{2 \times 1.96^2 \times 0.8 \times 0.2}{0.05^2}$$

$$N = 492$$

After adjusting for a non-response rate of 10%, 541 was the minimum number of households sample size.

The study targeted one individual aged 15 years and above in a household in Turkana West sub-County. Therefore, the number of individuals that were recruited into the study was **541** (adjusted for 10% non-response rate)

3.4.2 Sample Size: Cross-sectional study for comparison

The study applied the Kelsey *et. al.*, 1996 formula for calculating the sample size for the comparison group as used in the Maingi *et. al.*, study (Maingi *et al.*, 2023)

$$N_1 = \frac{(Z_{\alpha/2} + Z_{1-\beta})^2 \bar{p}\bar{q}(r+1)}{r(p_1 - p_2)^2}$$

And

$$N_2 = rN_1$$

Where:

n₁=Number of Exposed

n₂=Number of Unexposed

Z_{α/2}=Standard normal deviate for two-tailed test based on alpha level (related to the confidence interval level); was calculated at 95% confidence Interval: 1.96

Z_{1-β}=Standard normal deviate for one-tailed test based on beta level (relates to the power level: calculated at 80%:0.8

r=ratio of unexposed to exposed

p₁= Proportion of exposed to outcome and q₁=1-p₁

p₂=Proportion of unexposed to outcome and q₂=1-p₂

$$\bar{p} = \frac{P_1 + rp_2}{r+1}$$

and

$$\bar{q} = 1 - \bar{p}$$

Therefore, the calculation was based on the following assumptions:

$$Z_{\alpha/2} = 1.96$$

$$Z_{1-\beta}=80\% (0.8)$$

$$r=1$$

$$p_1=44\% (.44): \text{Percentage of exposed}$$

$$p_2=24\% (.24)(\text{Feyisa et al., 2022}): \text{Percentage of unexposed}$$

$$\text{Therefore: } \bar{p} = (0.44 + 1 \times 0.24 / 1 + 1) = 0.68 / 2 = 0.34$$

$$\bar{q} = 1 - 0.34 = 0.66$$

$$n_1 = (1.96 + 0.8)^2 \cdot 0.34 \times 0.66(1+1) / 1(0.44 - 0.24)^2$$

$$= 7.6176 \times 0.4488 / (0.2)^2$$

$$= 3.41877888 / 0.04 = 85.47$$

A total sample size for the two proportions was $86 \times 2 = 172$

Sample size was **172**

3.5 Sampling Procedures

A multistage cluster sampling based on the WHO cluster sampling survey method (WHO, 2020) was used in the study. The cluster sampling survey method recommended by WHO is a probability sampling technique that creates clusters from a large population through division, and a random sample of clusters is selected for the survey at each stage (multistage). The wards in Turkana West sub-County formed the primary sampling unit, and the villages in the respective wards formed the secondary sampling unit. Turkana West sub-County had been purposively selected due to the high transmission of trachoma despite the ongoing MDA campaigns. Simple random sampling was used in the sampling wards, Community Health Units (CHUs), villages, and respective households in Turkana West sub-County, as outlined below and in Figure 3-2:

3.5.1 First Stage Procedure

Turkana West sub-County was purposively selected as one of the sub-County in Turkana County with high active transmission of Trachoma despite the ongoing MDA campaigns in the county.

3.5.2 Second Stage Procedure

A list of wards (8) in Turkana West sub-County where MDA for trachoma was implemented was obtained from the Turkana County Neglected Tropical Diseases Coordinator (CNTD) Office or County Eye Coordinator (CED) Office. The wards were clustered into two, wards on the rural (4) and wards on the urban (4). Using simple random sampling four (4) wards were sampled two (2) from each cluster.

3.5.3 Third Stage Procedure

A list of CHUs in the four (4) wards was clustered, and four (4) CHUs were sampled using simple random sampling from each ward cluster; sixteen CHUs were sampled.

3.5.4 Fourth Stage Procedure

The villages in the sampled four (4) CHUs from each ward cluster formed clusters. Using Simple Random Sampling, eight (8) villages were sampled from each CHU cluster; thirty-two (32) villages were sampled.

3.5.5 Fifth Stage Procedure

Simple random sampling was used to select households from selected villages. A list of households was obtained from the community drug distributors in the respective village; using OpenEpi™ (OpenEpi, 2022) or Microsoft Excel™ (Microsoft, 2022), sixteen households were randomly selected. Households with no participants or whose participants declined to consent to participate in the study were replaced by a random selection of the remaining households using Microsoft Excel™ or OpenEpi™.

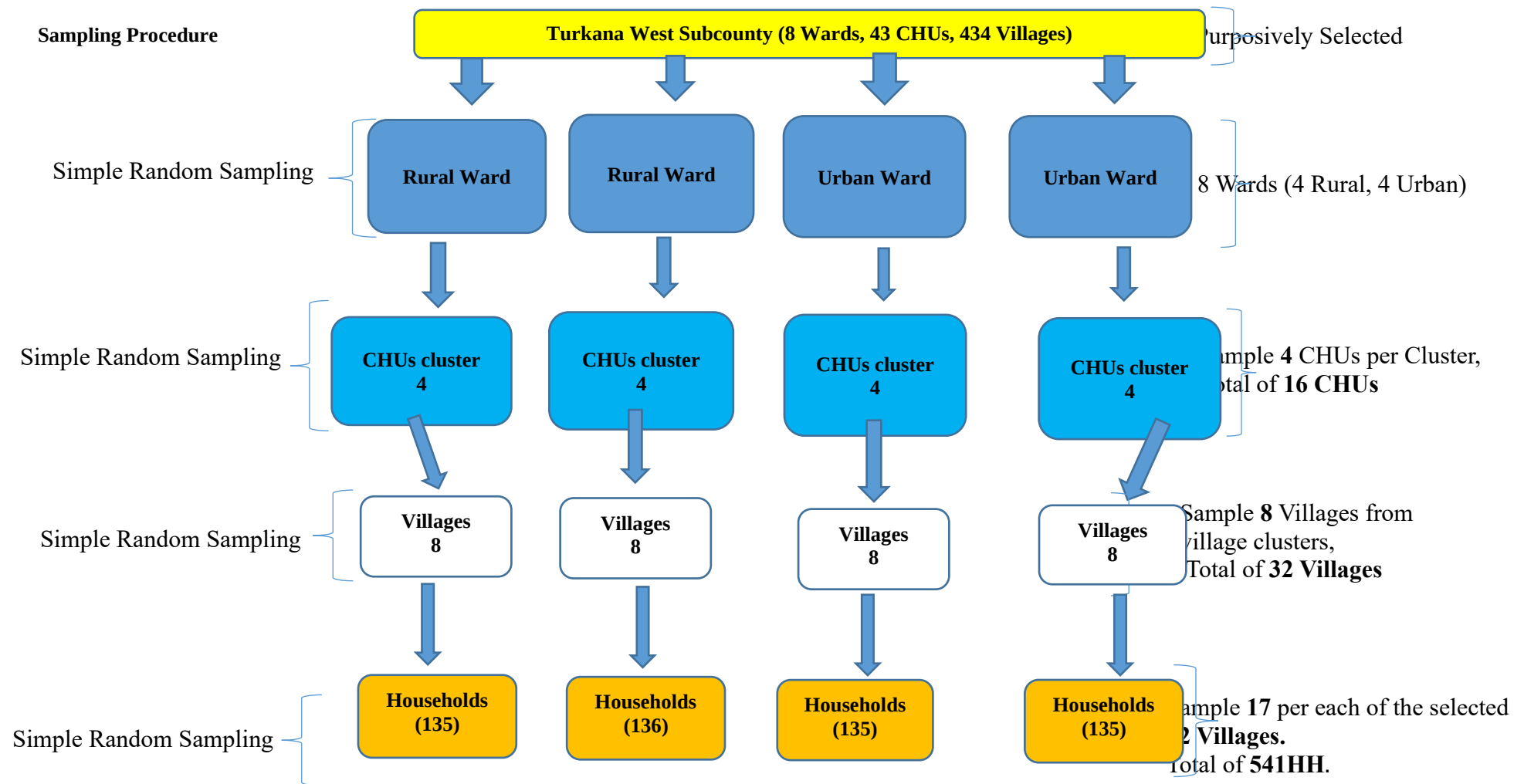


Figure 3: Sampling Procedure

At the household level, one eligible household member (fifteen years old and above) was interviewed in the 541 households. The study targeted household heads, where the household head was absent; a household head representative was interviewed. Where the representative was not present, a senior individual was selected to participate in the household interview.

3.6 Inclusion and Exclusion Criteria

3.6.1 Inclusion Criteria

- A household head who was fifteen years old (emancipated minor) and above.
- A resident of the study area for at least six months—during the implementation of Trachoma MDA program.

3.6.2 Exclusion Criteria

- Any household head who was mentally ill and could not give consent during data collection.

3.7 Data Collection Methods and Instruments/Tools

3.7.1 Data Collection Methods

(i). Household Interviews

The household interview method was used to assess the treatment coverage and determinants of drug uptake during the Trachoma Mass Drug Administration in Turkana West sub-County. Four (4) research assistants were trained and tasked with collecting data from five hundred forty-one (541) households in respective wards, Community Health Units (CHUs), and villages, as outlined in *Figure 3: Sampling Procedure*.

At village level, a list of households was provided by the Community Drug Distributor, and then households were assigned numbers and selected using simple random sampling; OpenEpi™ (OpenEpi, 2022) or Microsoft Excel™ (Microsoft, 2022) was used for randomization.

Using the inclusion and exclusion criteria at the household level, the research assistant interviewed one eligible member per household. The study targeted one individual aged 15 years and above in a household in Turkana West sub-County. Therefore, the number of individuals that were recruited into the study was 541. Households sampled for interviews with no occupants at the house were replaced.

(ii). In-depth Interviews and Key Informant Interviews

Using the *Criterion-i* strategy for purposeful sampling as described by Palinkas and others (Palinkas et al., 2015); the study participants were purposively drawn from organizations, agencies, or systems involved in the implementation process. The selection of participants was based on the assumption that they possess knowledge and experience on the phenomenon of interest, i.e. implementation of Trachoma MDA hence the information they provided was detailed (depth) and generalizable (breadth). As a result, thirty-two (32) Community Drug Distributors (CDD) who participated in the last Trachoma MDA in their respective villages were purposively sampled for in-depth interviews.

Key informant interviews were conducted with four support experts for the Trachoma MDA Program: sub-County Eye Coordinator, sub-County Community Strategy Focal Person, sub-County Public Health and Promotion Officer, and sub-County Pharmacist based at Turkana West sub-County purposively sampled using the *Criterion-i* strategy for purposeful sampling (Palinkas et al., 2015).

The Principal Investigator conducted the in-depth and key-informant interviews. The key-informant interviews involved informative conversations with support experts with unique expertise in the trachoma program. On the other hand, an in-depth interview involved discussions with community drug distributors with relevant knowledge about implementing MDA for trachoma in the community. The interviews were recorded (collected) using an audio recorder to facilitate transcription and analysis.

(iii). Desk-Review of data from the sub-County Registers

A desk review of data from the sub-County registers for the Trachoma Mass Drug Administration was conducted. The data was obtained from County and sub-County registers provided by the sub-County Eye Coordinator for Turkana West sub-County. The data from all the respective wards for the last three years was abstracted using the

abstraction tool. The Principal Investigator abstracted the annual data for Trachoma MDA coverage for the three years. The data was filled on the tool and later transferred and saved in a Microsoft Excel file on a secure computer.

3.7.2 Data Collection Instruments/Tools

(i) Semi-structured questionnaires

A semi structured questionnaire was developed and used to obtain data from the household level. The questionnaire was divided into three sections, which include:

- a) Social Demographic Characteristics-collected data on demographic data on the respondents
- b) Program factors influencing drug uptake– collected data on Trachoma MDA program-related determinants from the household
- c) Community factors influencing drug uptake — collected information on community determinants influencing drug uptake during mass drug administration for trachoma at the household level.

The questionnaire was uploaded on the Open Data Kit (ODK) platform; this facilitated the use of mobile phones or tablets to collect data.

(i) In-depth and Key Informant Interview Guides

The In-depth and Key Informant Interview guides were developed and used to guide the interviews of Community Drug Distributors and Support Experts for the Trachoma MDA Program, respectively.

The in-depth interview guide had open-ended questions. It was divided into:

- a) Capacity
- b) Convincing Power
- c) Compliance
- d) Motivation

The Key informant interview guide was categorized into the section below:

- a) Introduction
- b) Season Timings and Schedule for Trachoma MDA
- c) Supply of Trachoma Drugs and Measuring Instruments
- d) Community Sensitization and Mobilization
- e) Training and Capacity of Healthcare workers
- f) Support and lower-level technical support supervision

(ii) Abstraction of Trachoma Data from the sub-County Registers

The data abstraction checklist tool was developed and used for data abstraction for Trachoma MDA coverage for the last three years in the respective wards in Turkana West sub-County. The variables contained in the abstraction tool included:

- a) Name of Wards
- b) Year
- c) Trachoma Coverage

3.7.3 Validity and Reliability of the Study

A pilot test of the semi-structured questionnaire was conducted to assess the interviewer's adequacy and accuracy in mastering data entry on the mobile Open Data Kit (ODK) application. The data collectors were trained on how to collect data. The interviewers had role-play sessions to clarify unclear issues during the household interviews, which provided an opportunity to understand the research tools.

The data collection tools were translated into Swahili for ease of understanding for the data collectors. A back translation from Swahili to English was conducted to check the validity. Data was collected using mobile devices and tablets using the ODK application. Daily quality checks of the questionnaire, the server, and mobile phones were done. The collected data was immediately uploaded to the servers after the interviews, and consistency checks on the data ran daily. In addition, data completeness and accuracy were checked daily, and ambiguities were addressed immediately.

During community entry, permission for the study was obtained from chiefs and village heads, while consent was sought from heads of households or household representatives.

A pilot study was conducted in Loima sub-County in Turkana County to evaluate its feasibility and validate the study tools and procedures.

3.8 Data Confidentiality

Data confidentiality was adhered to during the study. Confidentiality was ensured by limiting access to the collected information; only authorized individuals had access to the information. Data privacy and security were explained to the respondents in detail while seeking consent. The names of all respondents were not used in the study. However, unique codes represented households and individuals, respectively. Information collected from the household level using Open Data Kit (ODK) on tablets or mobile phones was automatically sent to a secure server immediately after the interview. All audio recordings from audio recorders were transferred to password-protected laptops and deleted from the audio recorders immediately after the interviews were concluded. Names of individuals participating in in-depth and key informant interviews were anonymized on the transcripts; unique codes were used for identification. All the collected data was stored securely in password-protected servers and computers for an appropriate period according to the ethical committee's requirements.

3.9 Data Analysis

The data collected from the data abstraction checklist, structured questionnaire, in-depth and key-informant interviews was analysed.

(i) Data from Semi-Structured Questionnaire

The data collected through a structured questionnaire was processed using Epi-Info 7 and STATA version 15. Since the study has two components, the data underwent two types of analysis:

First, the community survey data underwent descriptive analysis to ascertain the coverage and determinants of drug uptake during mass drug administration for trachoma.

Secondly, a cross-sectional study comparison analysis for two proportions was conducted. Individuals with and without the outcome of interest (drug uptake during MDA for trachoma) were line-listed (two-line lists) and assigned numbers. Using the determined sample size of 172 in the ratio of 1:1 calculated using the Kelsey *et al.* 1996 formula as used by Maingi *et al.*, (Maingi et al., 2023) for comparing two proportions for the study, random numbers were generated from each line list (with and without the outcome of interest) and selection of 86 individuals from each list conducted. A comparison was performed for the two selected proportions. A descriptive analysis of the study findings' frequencies, means, percentages and standard deviation was conducted. In addition, crude odds ratio (OR) and adjusted odds ratio(aOR) were calculated for measures of association, confidence intervals (95% CI), and p-values to test the strength and statistical significance of determinants associated with drug uptake during MDA for trachoma, p-value of ≤ 0.05 was considered significant. All determinants influencing the drug uptake during trachoma MDA with a p-value of less than or equal to 0.2 under bivariate analysis were subjected to stepwise backward logistic regression to generate a reduced model, which was then subjected to multivariate analysis to identify variables independently associated with the outcome of interest.

(ii) Data from In-depth and Key-Informant Interviews

The in-depth interviews conducted with Community Drug Distributors and the Key-Informant interviews were recorded, transcribed, and, where necessary, translated from Swahili into English. Using Nvivo™ (QSR-Nvivo, 2022) software, the qualitative data (transcripts) was read and summarized into short memos. The short memos created themes (codes) on broad topic areas. Thematic analysis was conducted using a coding framework and a mind map. After reviewing the coding and exploring the data, themes that support the analysis were identified and copied using coding queries. The themes were used to triangulate the quantitative data collected from household interviews.

(iii) Data Abstracted using a checklist

The data for the last three years for mass drug administration for trachoma from the abstraction checklist or tool was processed and analyzed using Microsoft Excel™ (Microsoft, 2022). It was assessed whether it met the WHO-recommended coverage across the three years. In addition, the coverage for 2022 for wards was compared with the primary outcome of the study from respective wards.

3.10 Limitations of the Study

The study relied on the report and response from the household head or other eligible household members. Therefore, the response accuracy from the household members depended on their ability to recall, making the study liable to recall bias. To mitigate recall bias, the interview questions were well structured, and photo cues were used to stimulate recall for study participants.

3.11 Ethical consideration

(i) Ethics Approval

Ethical approval was sought from Moi University Ethics Review Committee (Approval Number: 0004351)-**Appendix 1**, NACOSTI (License No: NACOSTI/P/23/23952)-**Appendix 2** and Department of Refugee Services (DRS/OPER/2/22/Vol. XIV-168)-

Appendix 3. The study was also conducted with the permission of Turkana County, in extension Turkana West sub-County, respective village chiefs, elders and heads of participating households.

(ii) Consent and Assent

Voluntary participation was ensured without infringement of participants' rights, and they were entitled to withdraw at any time during the study. Verbal consent was sought from all participants—15 years old (emancipated minors) and above before enrollment into the study. The confidentiality and privacy of the collected data were guaranteed using unique codes, and only authorized personnel accessed the password-protected data.

3.12 Dissemination Plan

The findings will be presented to the Neglected Tropical Disease Unit, FELTP, and Ministry of Health at the National and County levels, and other stakeholders. The analyzed data will inform the Ministry of Health on areas to intensify interventions for eliminating trachoma. In addition, the study report will enlighten the Ministry of Health on the health gaps and inadequacies encountered in implementing the trachoma MDA program, and the recommendations for improving it. The findings will be published in peer-reviewed journals, abstracts, and presentations at conference meetings.

CHAPTER FOUR

4.0 RESULTS

This chapter presents the study findings obtained from the analyzed data. The chapter focused on the treatment coverage during mass drug administration for trachoma, study findings on the sociodemographic characteristics of study participants, community and program determinants related to drug uptake and study findings from the thematic analysis of the in-depth and key-informant interviews. It presents findings from the univariate, bivariate and multivariate analyses on the determinants of drug uptake during mass drug administration for trachoma.

4.1 Treatment Coverage for Trachoma during Mass Drug Administration (MDA) for Trachoma in Turkana West sub-County: Register Review and Survey

4.1.1 Trachoma MDA Coverage from Review of sub-County Registers

From the results (Table 1) of the desk review conducted for the four wards on treatment coverage during the last Trachoma Mass Drug Administration, Kalobeyei and Songot had a coverage of 91% and 90% in 2021 and 82% and 86% in 2022, respectively. Treatment coverage in Lokichoggio and Kakuma were 2021 (89%) and 2022 (83%) and 2021 (79%) and 2022 (77%), respectively. The treatment coverage of Turkana West sub-County was 82%. Trachoma Mass Drug administration was not conducted in Turkana West sub-County in 2020 due to the COVID-19 pandemic.

Table 1: Trachoma MDA coverage from register reviewed from 2020 to 2022 in Turkana West sub-County.

	2021			2022		
Ward	Estimated Target Population	Received	Percent (%)	Estimated Target Population	Received	Percent (%)
Kakuma	99840	79153	79	99839	76417	77
Kalobeyei	42143	38262	91	42143	34604	82
Lokichoggio	20467	18130	89	20467	16740	82
Songot	18436	16526	90	18436	15914	86
Turkana West S/C	180885	158636	88	180885	148217	82

4.2 Trachoma MDA Coverage from the Community Survey

4.2.1 Household Treatment Coverage for the last Trachoma MDA

At the household level in Turkana West sub-County (Figure 4), 3168 household members eligible for drug administration during the last Trachoma MDA in the households were identified; 2459 of the household members had taken drugs during last Trachoma MDA, translating to a household drug uptake of 2459/3168 (78%). Songot ward had 752/3168 (24%) eligible household members with a household treatment coverage of 645/752 (86%), Lokichoggio ward had 812/3168 (26%) eligible household members with a household treatment coverage of 669/812 (82%), Kalobeyei ward had 791/3168 (25%) eligible household members with a household treatment coverage of 621/791 (79%) and Kakuma ward had 813/3168 (26%) eligible household members with a household treatment coverage of 524/813 (65%).

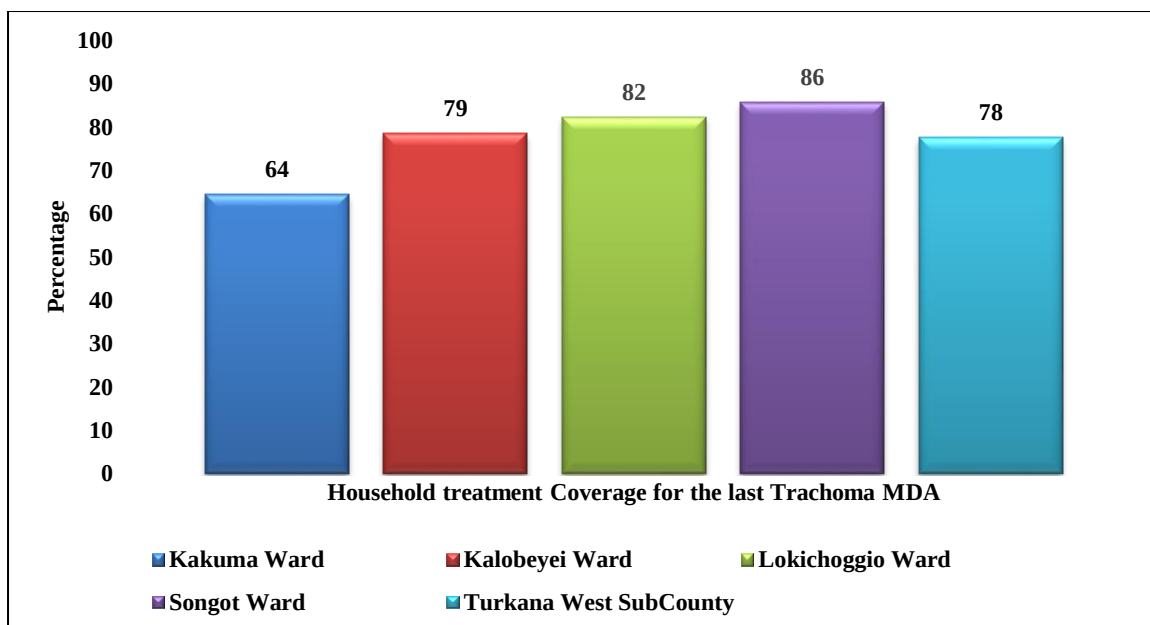


Figure 4: Household treatment coverage for the last Trachoma MDA in Turkana West sub-County.

4.2.2 Treatment Coverage in the Sampled Villages in the last Trachoma MDA

From the household head interviews conducted on the uptake of drugs at household level 2459/3168 (78%), of the thirty-two villages in the four wards, 9/32 (28%) of the villages had a treatment coverage of less than 80% in the last Trachoma MDA. The villages, blocks or neighborhoods with a low treatment coverage for trachoma include Kakuma 2-Zone-Two-Block-6 (19%), Kakuma 4-Zone-One-Block-3 (21%), Kakuma 1-Zone-Two-Block-11 (73%), and Kakuma 1-Zone Two-Block-12 (73%) in Kakuma Ward; Village-Three-Hood-34(50%), Village-Two-Hood-6 (76%), and Nawoton (76%) in Kalobeyei Ward; Makuti (76%) in Lokichoggio Ward; and Teremkus (79%) in Songot Ward (Table-2).

Table 2: Treatment Coverage in Sampled Villages in the last Trachoma MDA in Turkana West sub-County

Name of Village	Number of Eligible Individuals for MDA in HH	Number of Individuals that received the drug in HH	Percent (%)
1) Kakuma-2-Zone-Two-Block-6	150	29	19
2) Kakuma-4-Zone-One-Block-3	95	20	21
3) Village-Three-Hood-34	101	50	50
4) Kakuma-1-Zone-Two-Block-11	89	65	73
5) Kakuma-1-Zone-One-Block-12	109	80	73
6) Makuti	132	100	76
7) Nawoton	99	75	76
8) Village-Two-Hood-6	104	79	76
9) Teremkus	79	62	78
10) Kany'ang'akipor	96	77	80
11) Nangirakais	92	74	80
12) Lolim Ekisil	79	64	81
13) Dikilkimat	106	87	82
14) Nakwasinyen	67	55	82
15) Achukule	95	78	82
16) Kanyangangiro	85	70	82
17) Kambi Palaa	83	69	83
18) Nadapal-1	91	76	84
19) Nadunga	85	71	84
20) Etelej	102	86	84
21) Kimukoe	115	97	84
22) Village-Two-Hood-31	121	103	85
23) Village-One-Hood-27	81	69	85
24) Lotorob-1	112	96	86
25) Lotorob-A	92	79	86
26) Kiwanja ya Ndege	106	94	89
27) Kapetajem	89	79	89
28) IDP 2	98	87	89
29) Kiiloroe	124	112	90
30) Nakwamuyen	94	88	94
31) Adak 3	99	94	95
32) Namam-kile	98	94	96

4.2.3 Area or Location Treatment Coverage for the last Trachoma MDA in Turkana West sub-County

Table 3 below shows the treatment coverage for Trachoma during the last Mass Drug Administration in Turkana West sub-County was 81% and 72% in Urban and Rural areas, respectively.

Table 3: Area or Location Treatment Coverage for Trachoma for the last Trachoma MDA in Turkana West sub-County.

Area or Location	Uptake	Freq.	Coverage
Urban	Yes	276	81%
	No	66	
	Total	342	
Rural	Yes	122	72%
	No	48	
	Total	170	

4.2.4 Study Area with Location of Sampled Villages and Households

Figure 5 below shows the sampled area and data collection locations in Kakuma, Kalobeyei, Lokichoggio, and Songot Wards. From each ward, eight (8) villages were randomly selected; in each, sixteen (16) households were randomly selected from the list of respective community health units provided by the Community Health Volunteers (CHVs). In Kakuma and Kalobeyei wards, out of the eight villages for each ward, four villages were sampled from refugee camps or settlements. Therefore, eight villages were randomly selected in the refugee camps or settlements, constituting 128/512 (25%) households from the total sampled population.

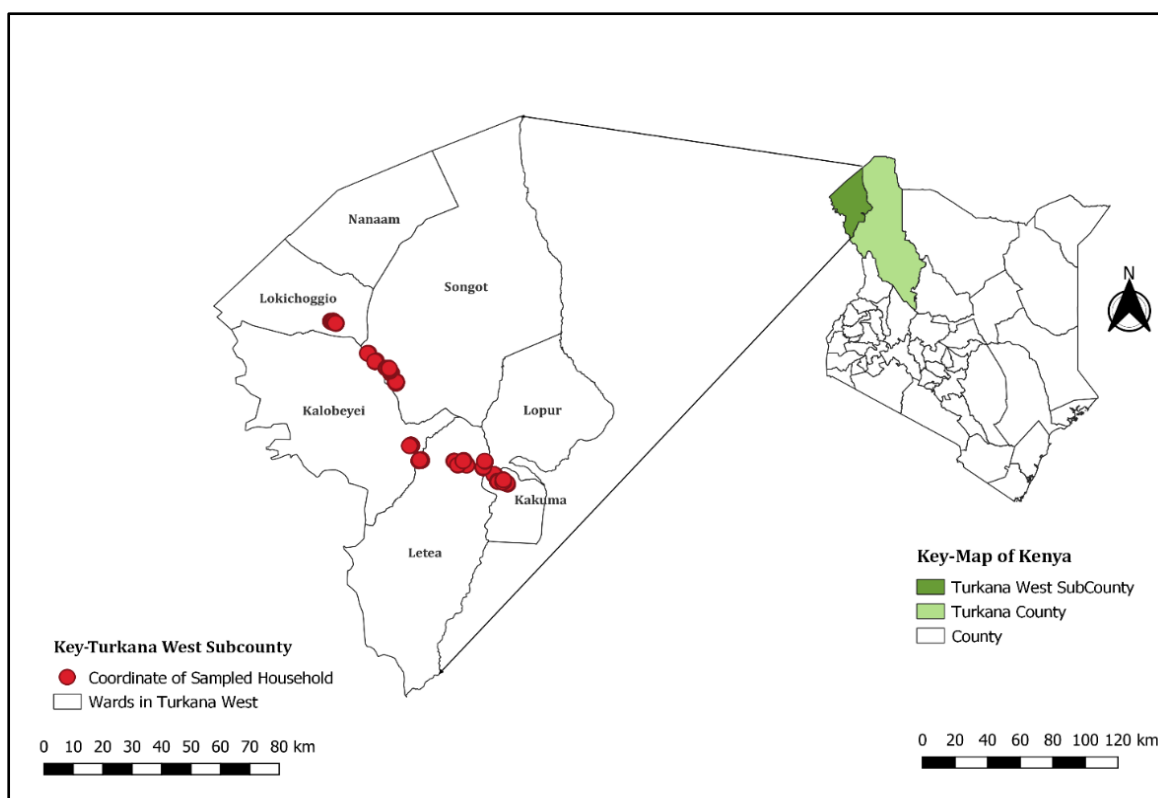


Figure 5: Study Area with Sampled Villages and Households Location in Turkana West sub-County (Map drawn by Stephen Olubulyera using QGIS Software).

4.2.5 Treatment Coverage in the Sampled Wards during the last Trachoma MDA

Of the 512 study participants interviewed, Figure 6 below shows that treatment coverage during the last Trachoma MDA in September 2022 was 83/128 (65%) in Kakuma, 105/128 (82%) in Kalobeyei, 101/128 (79%) in Lokichoggio, and 109/128 (85%) in Songot wards, respectively.

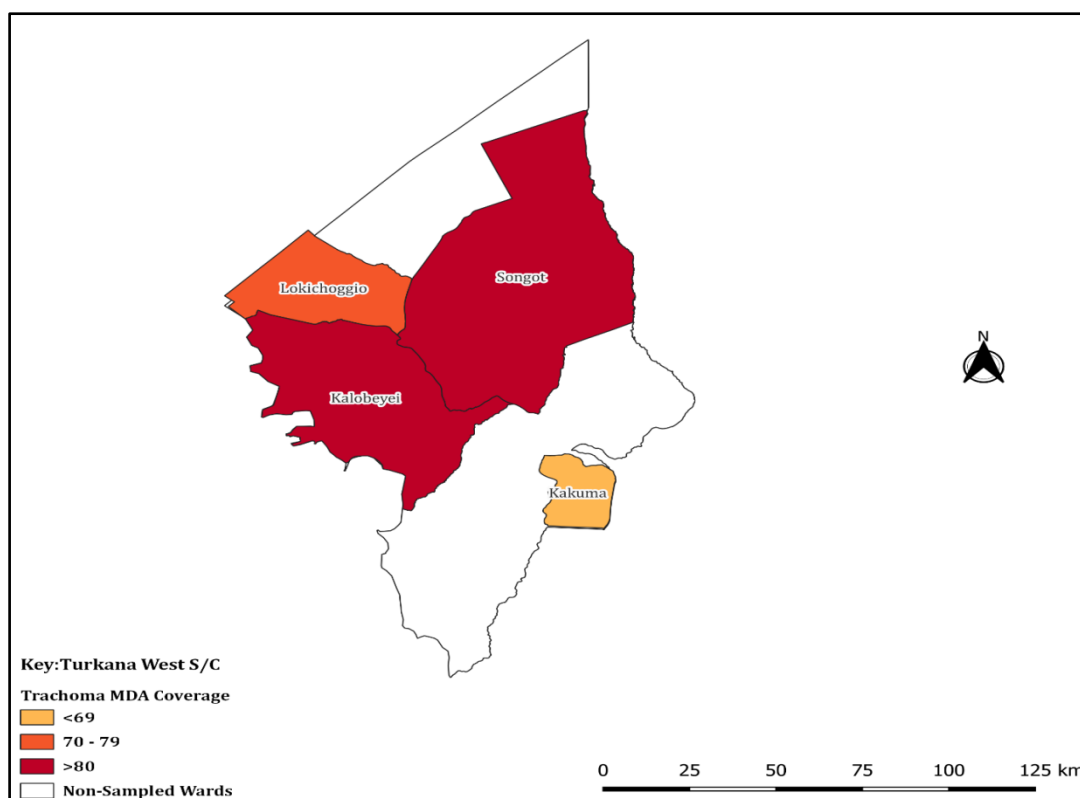


Figure 6: Treatment Coverage in the Sampled Wards during the last Trachoma MDA in Turkana West sub-County (Map drawn by Stephen Olubulyera using QGIS Software).

4.2.6 Treatment Coverage per defined population for the last Trachoma MDA

From the randomly selected wards (Table 4), Kakuma and Kalobeyei wards host refugee populations in camps and settlements, respectively; 86% of the study participants in Kalobeyei Settlement had taken the drug, while 45% of the study participants in Kakuma Refugee camp took drugs in the last Trachoma MDA.

Table 4: Treatment Coverage per defined population in the last Trachoma MDA in Turkana West sub-County.

Ward	Defined Popn	Drug uptake during Trachoma MDA(N=512)			Coverage (%)	Overall Coverage
		Yes	No	Total		
Kakuma	Host	54	10	64	84%	65
	Refugees	29	35	64	45%	
Kalobeyei	Host	50	14	64	78%	82
	Refugees	55	9	64	86%	
Lokichoggio	Host	101	27	128	79%	79
Songot	Host	109	19	128	85%	85

4.2.7 Individual Treatment Coverage in the last Trachoma MDA in Turkana West sub-County

Of the 512 participants that consented and participated in the study, 398/512 (78%) revealed that they had taken the trachoma drug (azithromycin) during the last Trachoma MDA in Turkana West sub-County, 114/512 (22%) indicated that they did not. The overall treatment coverage during the last Trachoma MDA in Turkana West sub-County was 78% (Figure 7).

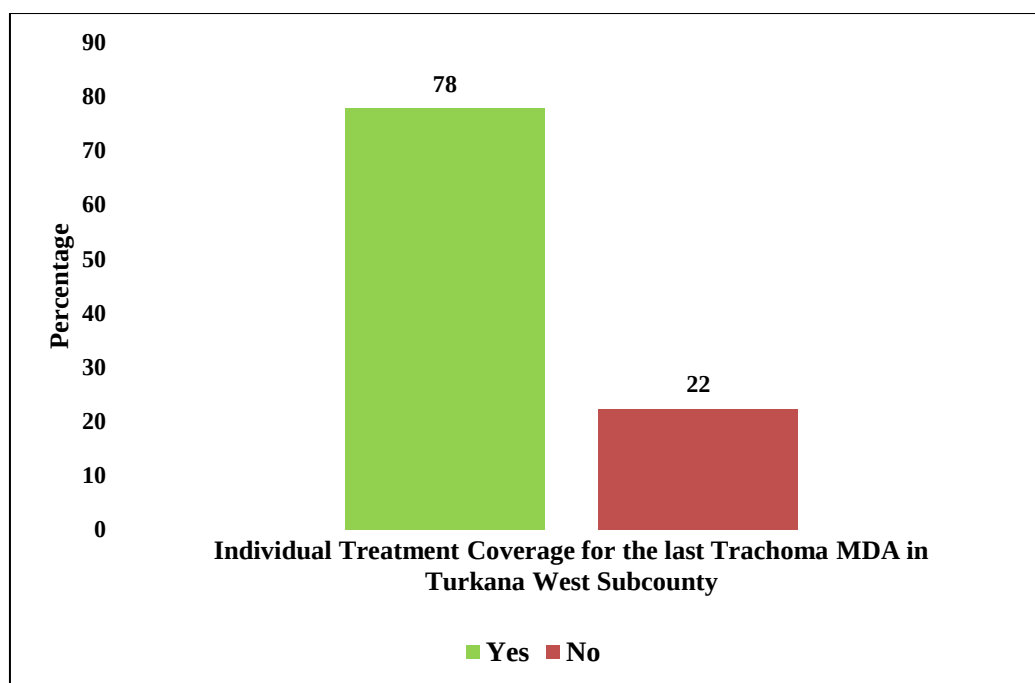


Figure 7: Individual Treatment Coverage in the last Trachoma MDA in Turkana West sub-County.

4.2.8 Village Treatment Coverage at Individual Level in the last Trachoma MDA in Turkana West sub-County

From the individual interviews conducted on the uptake of drugs (Table 5), 398/512 (78%) of the thirty-two villages in the four wards, 15/32 (47%) of the villages had treatment coverage of less than 80% in the last Trachoma MDA (Table 5).

Table 5: Village Treatment Coverage at the Individual Level among study participants in the last Trachoma MDA in Turkana West sub-County.

Name of Village	Received Azithromycin during MDA			Percent (%)
	Yes (n)	No (n)	Total (n)	
1) Kakuma-2-Zone-Two-Block-6	1	15	16	6
2) Kakuma-4-Zone-One-Block-3	4	12	16	25
3) Village-Three-Hood-34	9	7	16	56
4) Kambi Palaa	10	6	16	63
5) Kimukoe	11	5	16	69
6) Achukule	11	5	16	69
7) Lolim Ekisil	11	5	16	69
8) Kakuma-1-Zone-One-Block-12	12	4	16	75
9) Kakuma-1-Zone-Two-Block-11	12	4	16	75
10) IDP 2	12	4	16	75
11) Dikilkimat	12	4	16	75
12) Nakwamuyen	12	4	16	75
13) Kanyangangiro	12	4	16	75
14) Nadapal-1	12	4	16	75
15) Kapetajem	12	4	16	75
16) Nakwasinyen	13	3	16	81
17) Nangirakais	13	3	16	81
18) Nadunga	13	3	16	81
19) Teremkus	13	3	16	81
20) Kiwanja ya Ndege	14	2	16	88
21) Nawoton	14	2	16	88
22) Village-Two-Hood-6	14	2	16	88
23) Lotorob-1	14	2	16	88
24) Kany'ang'akipor	14	2	16	88
25) Adak 3	15	1	16	94
26) Makuti	15	1	16	94
27) Lotorob-A	15	1	16	94
28) Etelej	15	1	16	94
29) Namam-kile	15	1	16	94
30) Village-One-Hood-27	16	0	16	100
31) Village-Two-Hood-31	16	0	16	100
32) Kiiloroe	16	0	16	100

4.2.9 History of Participation in Trachoma Mass Drug Administration

As shown below on Table 6, among the household heads or representatives

interviewed, 69/512 (13%) had never taken drugs during the Trachoma Mass Drug Administration

Table 6: History of participation in Trachoma MDAs among study participants in the Turkana West sub-County in 2023.

Ever taken drugs during Trachoma MDA	Frequency (n)	Percent (%)
Yes	443	87%
No	69	13%
Total	512	100%

4.3 Univariate Analysis of the Social-Demographic Characteristics

Using the Kelsey et al. formula, in a comparison ratio of 1:1, 174 study participants were sampled randomly from the 512 study participants enrolled in the survey. As shown in Table 7, the mean age of the 174 study participants was 34.1 ± 13 years (± 13 SD), the majority in the age group of 25-34 (30%). Of the study participants, 71% were females, 63% were married/cohabiting, 60% had no formal education, 84% were Christians, and 78% had no occupation. The proportion of the study participants' villages that were in urban areas was 67%; 70% resided in a settled village, with 90% having lived there for two years and above. Most of the semi-nomadic and nomadic study participants migrate frequently to Uganda. Of the study participants in the refugee camps and settlements, 50% were South Sudanese. Kakuma and Kalobeyei wards contributed to 26% of the participants enrolled in the study (Table 7).

Table 7: The Sociodemographic Characteristics of the study participants in Turkana West sub-County.

Social Demographic Characteristics	Frequency n=174	Percent (%)
Age (Years)		
15–24	51	29
25–34	52	30
35–44	28	16
45–54	24	14
55>	19	11
Sex		
Female	123	71
Male	51	29
Level of Education		
None	99	57
Primary	38	22
Secondary	32	18
Tertiary	5	3
Marital Status		
Married/Cohabiting	110	63
Single	42	24
Widow/Widower	13	8
Divorced	9	5
Religion		
Christianity	146	84
Islam	15	9
Traditionalist	7	4
No Religion	6	3
Occupation		
No occupation	135	78
Student	18	10
Business Person	14	8
Healthcare Worker	2	1
Others	4	2
Teacher	1	0.6
Location of Village/Household		
Urban	116	67
Rural	58	33
Length of Stay in the Village		
Two years and above	157	90
One Year	11	6
Less than a year	6	4
Type of Village, Block or Neighborhood		
Settled	121	70
Refugee	46	26
Nomadic	6	3
Semi-Nomadic	1	0.6
Nomadic & Semi-Nomadic (7) Frequently Migrates to:		
Sudan	3	43
Uganda	7	100
Nationality of the Refugees (n=46)		
Sudanese	23	50
Burundian	10	22
Somali	6	13
Ethiopian	4	9
Rwandese	2	4
Congolese	1	2
Ward		
Kakuma	46	26
Kalobeyei	46	26
Lokichoggio	44	25
Songot	38	22

4.4 Univariate Analysis of Determinants of Community and Program Factors in Turkana West sub-County

Of the participants recruited into the study in Turkana West sub-County, 138/174 (79%) were aware of Trachoma Disease. Of the 79% (138) participants aware of trachoma disease, 128/138 (93%) identified severe itching of the eyes as a sign and symptom of trachoma disease. Among the participants aware of trachoma disease, 115/138 (83%) mentioned blindness and 69/138 (50%) visual impairments as effects of trachoma disease on the population (Table 8).

Of the participants aware of trachoma disease, 109/138 (79%) attributed the transmission of trachoma to flies, 109/138 (79%) mentioned personal hygiene as a way of preventing Trachoma disease, and 94/138 (68%) mentioned that trachoma MDA frequency was once a year (Table 8).

Table 8: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
Awareness of Trachoma Disease	n=174	
Yes	138	79
No	36	21
Knowledge on Signs and Symptoms	n=138	
Severe itching of the eyes	128	93
Redness of Eyes	84	61
Headaches	32	23
Others	2	2
Knowledge on the effects of Trachoma Disease on People	n=138	
Blindness	115	83
Visual Impairments	69	50
Don't know	1	1
Knowledge on the Mode of Transmission of Trachoma Disease	n=138	
Flies	109	79
Unhygienic Practices	91	66
Poor Environmental Sanitation	49	36
Don't know	2	2
Knowledge on Ways of Preventing Trachoma Disease apart from MDA	n=138	
Personal Hygiene	109	79
Face Cleanliness	99	72
Environmental Sanitation	46	33
Don't know	2	2
Knowledge of Frequency of Trachoma MDA	n=138	
Once a year	94	68
Every two years	22	16
After every six months	1	1
I don't know	21	15

Among the participants interviewed, as shown below in Table 9, 123/174 (71%) had previously taken drugs during mass drug administration for trachoma. Of the participants with a history of participating in Trachoma MDA, 138/174 (79%) had taken the drugs “once” during MDA for trachoma. As shown below in Table 9, among the participants with a history of participating in Trachoma MDA (79%), 60/123 (49%) attributed to influence from sensitization from the community drug distributor. Among the participants with a history of never taking drugs during Trachoma MDA, 51/174 (29%), 28/51 (55%), and 14/51 (27%) of the participants mentioned being absent from

home during drug distribution and the distribution team not reaching their village, respectively, as the reasons why they had never taken drugs during mass drug administration for trachoma. Of the study participants, 120/173 (69%) indicated that drugs were distributed to houses during the last Trachoma MDA.

Table 9: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
History of Participation in Trachoma MDA	n=174	
Yes	123	71
No	51	29
History of Drug Uptake during Trachoma MDA in the past five years	n=123	
Taken it twice	52	42
Taken it several times	37	30
Taken once	27	22
I do not remember	7	6
Influence for taking drugs during the last Trachoma MDA	n=123	
Sensitization by the community drug distributor	60	49
Sensitization by the healthcare worker	53	43
My own volition, realized the importance	8	7
Others	2	1
Reasons why participants had Never taken drugs during Trachoma MDA	n=51	
Absent from home during distribution	28	55
The distribution team has never reached my village	14	27
Not approached for MDA	3	6
Refused Completely	2	4
Pregnant at the time	2	4
Migrated with the village members	1	2
Knowledge on where drugs were distributed or received	n=173	
The drugs are brought to my house	120	69
Compound/Centre/Community Meeting Point	70	41
School	11	6
The compound of drugs distributor	4	2
Church	3	2
The compound of a village leader	2	1
Mosque	1	1
I don't know	20	12
House to House Strategy	n=173	
Yes	120	69
No	53	31

As shown below in Table 10, among the study participants who refrained from taking drugs during the last trachoma MDA, 49/87 (56%) and 11/87 (13%) mentioned that they were absent and not aware of the Trachoma MDA, respectively, during the distribution of the drugs. Of the study participants who took drugs during the last Trachoma MDA, 65/87 (75%) considered taking drugs during Trachoma MDA to control signs and symptoms of Trachoma. Among the participants who took drugs during the last Trachoma MDA, 34/87 (39%) had adverse effects after taking trachoma drugs, and 18/34 (53%) experienced feeling dizzy or tired adverse effects.

Table 10: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
Reasons that influenced the decisions to refrain from taking drugs on the last Trachoma MDA	n=87	
I was absent during the distribution	49	56
The drug administrators didn't visit my village/household	11	13
Not aware of the Trachoma MDA	10	11
Pregnant during the MDA	8	9
Fear of side effects of the drugs	5	6
Others	3	3
Waited too long for the drug to be administered	1	1
Participants that considered taking drugs to control signs and symptoms of Trachoma	n=87	
Yes	65	75
No	20	23
Do not know	2	2
Had adverse effects after taking Trachoma drugs	n=87	
Yes	34	39
No	53	61
Adverse effects experienced after taking Trachoma drugs	n=34	
Feeling Dizzy or Tired	18	53
Stomach-ache	16	47
Nausea	11	32
Diarrhea	9	26
Loss of appetite	4	11
Vomiting	2	6
Other adverse effects	2	6

As shown below in Table 11, among the study respondents who experienced adverse effects after taking drugs during the last Trachoma MDA, 34/87 (39%), 24/34 (71%) of the respondent's participation in the next MDA were influenced by their experience from the adverse effects. Of all participants recruited into the study, 29% had heard of adverse effects from drugs during MDA for trachoma. Of the study participants who had heard of the adverse effects of drugs during MDA for trachoma, 51/174 (29%), the information influenced 39/51 (76%) of the participant's decision to participate in the next MDA. Of the participants recruited into the study, 34/174 (20%) knew someone who had suffered from Trachoma disease and recovered after treatment. Among the participants who knew a person who had suffered from Trachoma disease and recovered after treatment, 30/34 (88%) of the participants were influenced by the person's recovery after treatment to take drugs during MDA for trachoma, as shown above in Table 11.

Table 11: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
Influence of the adverse effect to participate in the next Trachoma MDA	n=34	
Yes	24	71
No	10	29
Heard of adverse effects of Trachoma drugs during Trachoma MDA	n=174	
Yes	51	29
No	123	71
Influence of information on the adverse effects of drugs during Trachoma MDA on the decision to participate in the next MDA	n=51	
Yes	39	76
No	12	24
Know someone who suffered from Trachoma disease and recovered after treatment	n=174	
Yes	34	20
No	140	80
The influence of the person's recovery after treatment on taking drugs during Trachoma MDA	n=34	

Yes	30	88
No	4	12

Of the participants in the study, 104/174 (60%) had received information on Planned Trachoma MDA before or during MDA for trachoma. Of the participants who received information about MDA for trachoma, 70/104 (67%) received the information from Healthcare Workers (Table 12). Among the study participants, 43/174 (25%) indicated that they had access to posters and leaflets with information on Trachoma MDA that was shared during the last Trachoma MDA. Of the study participants, 66/174 (38%) attended a health education session held in the community, 65/66(98%) of those who attended the health education session on Trachoma MDA indicated that the session covered facial cleanliness and personal hygiene, and 51/66 (77%) of the study participants attended the health education session at the health facility as shown above on Table 12.

Table 12: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
Received information on planned Trachoma MDA before or during Trachoma MDA	n=174	
Yes	104	60
No	70	40
Source of information on the planned Trachoma MDA	n=104	
Healthcare Workers	70	67
Public Address System	47	45
Community Health Volunteer	25	24
Community Drug Distributor	20	19
Radio/TV	5	5
Teacher	4	4
Community Leader	2	3
Chief	1	1
Other sources: Neighbour	1	1
Leaders	1	1
Sharing of posters and leaflets on Trachoma MDA during the last Trachoma MDA	n=174	
Yes	43	25
No	89	51
Don't Know	42	24
Attended a health education session held at the community on Trachoma MDA	n=174	
Yes	66	38
No	108	62
Health education session covered on Trachoma MDA	n=66	
Facial Cleanliness and Personal Hygiene	65	98
Environmental Sanitation to Prevent Trachoma	49	74
Use of antibiotics (drugs or treatment)	48	73
Surgery for those at advanced stages	3	5
Where the session was held	n=66	
Health facility	51	77
Chief's Baraza	6	9
School	6	9
Church	2	3
At the Household Level	1	2

As shown below in Table 13, 46/106 (43%) of the study participants indicated that the drug was beneficial in treating and preventing Trachoma disease. Among the study participants, 81/110 (74%) indicated that the distribution of drugs in the village was house to house during the last Trachoma MDA. Of the participants who took the drugs during MDA for trachoma, 43/87 (49%) were advised on anticipated mild or adverse

side effects of the Trachoma drugs. Among the study participants who took the Trachoma drug during the last MDA for trachoma, 76/87(87%) believed that the process or procedures of administration of drugs during the Trachoma MDA were not long or tedious (Table 13).

Table 13: Community and Program determinants on drug uptake during MDA for trachoma among study participants in Turkana West sub-County in 2023.

Community & Program Determinants	Frequency	Percent (%)
The benefits of taking Trachoma Drugs	n=106	
The drugs do both, treat and prevent Trachoma Disease	46	43
The drugs prevent one from getting the Trachoma Disease	39	37
The drug treats the ones with Trachoma Disease	19	18
I do not know that the drug does	2	2
Knowledge of how drugs are distributed in the village	n=110	
House to House	81	74
Health Facility	9	8
Mobile teams (Any place in the village)	8	7
A place in the village	3	3
Don't know	23	21
Advised on any anticipated mild or adverse side effects on the Trachoma drugs during Trachoma MDA	n=87	
Yes	43	49
No	44	51
Trachoma MDA process or procedures: long and tedious	n=87	
Yes	11	13
No	76	87

4.5 Bivariate Analysis of Social Demographic factors associated with drug uptake during Trachoma MDA in Turkana West sub-County in 2023

Table 14 below presents the calculated crude odds ratio (OR), confidence intervals (95% CI), and p-values: measures of association used to test the strength and statistical significance of social demographic determinants associated with drug uptake during mass drug administration for trachoma in Turkana West sub-County. The age groups: 25-34 (OR=5.54, 95% CI 1.61-19.02, p-value=0.01), 35-44 (OR=5.00, 95% CI 1.32-18.96, p-value=0.02), 45-54 (OR=4.43, 95% CI 0.1-0.9, p-value=0.03) variables had the strength and significant association with the uptake of drugs during mass drug administration for trachoma in Turkana West sub-County.

Table 14: Bivariate Analysis of Social Demographic factors associated with drug uptake among study participants during Trachoma MDA in Turkana West sub-County in 2023.

	Uptake of drugs during MDA			
Variable	Yes (%)	No (%)	Crude OR (95% CI)	P-value
Age in Years				
15-24	23 (45)	28 (55)	3.08(0.9-10.57)	0.07
25-34	31(60)	21(40)	5.54(1.61-19.02)	0.01*
35-44	16(57)	12(43)	5(1.32- 18.96)	0.02*
45-54	13(54)	11(46)	4.43(1.13-17.34)	0.03*
55>	4(21)	15(79)	Ref	
Sex/Gender				
Male	27(53)	24(47)	1.18 (0.61-2.27)	0.62
Female	60(49)	63(51)	Ref	
Level of Education				
Primary	21(55)	17(45)	1.54 (0.73-3.28)	0.26
Secondary	19 (59)	13(41)	1.83 (0.81-4.1)	0.14
Tertiary	3(60)	2(40)	1.88 (0.3-11.7)	0.50
None	44(44)	55(56)	Ref	
Marital Status				
Married/Cohabiting	57(52)	53(48)	1.72 (0.53-5.6)	0.38
Single	21(50)	21(50)	1.6(0.45-5.7)	0.47
Divorced	4 (44)	5(56)	1.28(0.23-7.19)	0.78
Widow/Widower	5 (38)	8 (62)	Ref	
Religion				
Christianity	77(53)	69(47)	5.58(0.64-48.94)	0.12
Islam	7(47)	8(53)	4.37(0.41-47.02)	0.22
Traditionalist	2(29)	5 (71)	2(0.13-29.81)	0.62
No religion	1(17)	5(83)	Ref	
Occupation				
No occupation	64(47)	71(53)	1.12 (0.33-2.39)	0.81
Business Person	8(57)	6(43)	1.67 (0.41-6.82)	0.47
Healthcare Worker	2(100)	0	1	
Others	4(100)	0	1	
Teacher	1(100)	0	1	
Student	8 (44)	10 (56)	Ref	
Location of Village/Household				
Urban	64(55)	52(45)	1.87(0.99-3.56)	0.06
Rural	23(40)	35(60)	Ref	
Length of Stay in the Village				
Two years & above	79(50)	78(50)	2.03(0.36-11.38)	0.42
One Year	6(55)	5(45)	2.4(0.3-19.04)	0.41
Less than a year	2(33)	4(67)	Ref	
Type of Village, Block or Neighborhood				
Settled	67(55)	54(46)	7.44 (0.87-63.72)	0.07
Refugee	19(41)	27(59)	4.73(0.47-37.99)	0.2
Nomadic	1(14)	6(86)	Ref	
Nationality of the Refugees(n=46)				
Sudanese	10(43)	13 (57)	1.54(0.23-10.15)	0.66
Burundian	2(20)	8 (80)	0.5(0.59-4.98)	0.55
Ethiopian	3 (75)	1 (25)	6(0.35-101.57)	0.21
Congolese	1 (100)	0	1	
Rwandese	1 (50)	1 (50)	2(0.08-51.59)	0.68
Somali	2(33)	4(67)	Ref	

4.6 Bivariate analysis of Community and Program factors associated with Drug Uptake among study participants during Mass Drug Administration for Trachoma in Turkana West sub-County in 2023

Table 15 below shows the calculated crude odds ratio (OR), confidence intervals (95% CI), and p-values indicating the community and program factors associated with the uptake of drugs during mass drug administration for trachoma in Turkana West sub-County. Awareness of trachoma disease (OR=9.10, 95% CI 3.33-24.78, p-value <0.001), influence from hearing someone's experience on side effects of trachoma drugs (OR=4, 95% CI 1.01-15.78, p-value=0.048); receiving information on planned MDA before implementation (OR=2.66, 95% CI 1.14-4.97, p-value=0.002); sharing of poster or leaflets on Trachoma during MDA (OR=2.28, 95% CI 1.11-4.66, p-value=0.024), attendance of mobilization or health education sessions on trachoma (OR=2.2, 95% CI 1.18-4.14, p-value=0.013); knowledge on how often drugs are administered: once a year (OR=0.28, 95% CI 1.3-9.6, p-value=0.013), and house to house drug distribution strategy: (OR=3.35, 95% CI 0.10-0.77, p-value=<0.001) variables had strength and statistical significance in drug uptake during mass drug administration in Turkana West sub-County.

Table 15: Bivariate analysis of Community and Program determinants associated with drug uptake among study participants during mass drug administration for trachoma in Turkana West sub-County in 2023.

	Uptake of drugs during MDA			
Variable	Yes (%)	No (%)	Crude OR (95% CI)	P-value
Awareness of Trachoma				
Yes	82(59)	56(41)	9.1(3.33-24.78)	<0.001
No	5(14)	31(86)	Ref	
Influence from hearing someone’s experience on side effects				
Yes	26(67)	13(33)	4 (1.01-15.78)	0.048
No	4(33)	8(67)	Ref	
Received Information on planned MDA before MDA				
Yes	62(60)	42(40)	2.66(1.42-4.97)	0.002
No	25(36)	45(64)	Ref	
Shared Posters or Leaflets on Trachoma during the last MDA				
Yes	28(65)	15(35)	2.28(1.11-4.66)	0.024
No	59(45)	72(55)	Ref	
Attended a Mobilization or Health Education Session on Trachoma				
Yes	41(62)	25(38)	2.2(1.18-4.14)	0.013
No	46(43)	62(57)	Ref	
Knowledge of how often drugs for Trachoma are administered				
Once a year	60(64)	34(36)	3.53(1.3-9.6)	0.013
Every two years	14(64)	8(36)	3.5(1-12.3)	0.051
After six months	1(100)	0	1	
I don’t know	8(33)	14(67)	Ref	
Drug Distribution Strategy during Trachoma MDA: House to House				
Yes	71(59)	49(41)	3.36 (1.68-6.68)	0.001
No	16(30)	37(70)	Ref	

4.7 Multivariate Analysis of Social Demographic, Community and Program Factors

In multivariate analysis, awareness about trachoma (aOR=8.39, 95% CI 2.83-24.85, p-value=<0.001), age groups 25-34: (aOR=6.9, 95% CI 1.84-24.94, p-value=0.004), 35-44: (aOR=4.83, 95% CI 1.15-20.16, p-value=0.031) variables were associated and statistically significant with drug uptake during mass drug administration for trachoma. Age groups: 45-53 (aOR=4.17, 95% CI 0.99-2.12, p-value=0.051), 15-24(aOR=3.22, 95% CI 0.87-11.97, p-value=0.08), house-to-house strategy (aOR=1.72, 95% CI 0.76-3.88, p-value=0.19) and posters (aOR=1.79, 95% CI 0.79-4.05, p-value=0.16) were associated but not statistically significant with the uptake of drugs during Trachoma Mass Drug Administration.

Table 16: Multivariate Analysis of Social Demographic, Community, and Program factors associated with drug uptake among study participants during MDA for Trachoma in Turkana West sub-County in 2023.

Determinants of Drug Uptake	aOR	P-Value	Confidence Intervals
Awareness of Trachoma Disease			
Yes	8.39	0.000	2.83-24.85
No	Ref		
Age			
15-24	3.22	0.081	0.87-11.97
25-34	6.91	0.004	1.84-25.93
35-44	4.83	0.031	1.16-20.16
45-54	4.17	0.051	0.99-17.47
55>	Ref		
Poster			
Yes	1.79	0.161	0.79-4.05
No	Ref		
House to House Strategy			
Yes	1.72	0.191	0.76-3.88
No	Ref		

4.8 Thematic Analysis of Community and Program Factors

In thematic analysis, four (4) key-informant interviews and twenty-two in-depth interviews (Table 17) were conducted to explore the community and program factors associated with drug uptake during mass drug administration (MDA) for trachoma in Turkana West sub-County. The four key informants' interviews were conducted with sub-County Public Health Officer (SCPHO), sub-County Eye Coordinator (SCEC), sub-County Pharmacy (SCP) and sub-County Community Strategy Focal Person (SCCSFP) for Turkana West sub-County. The in-depth interviews were conducted with Community Drug distributors in Kakuma (3), Kalobeyei (5), Lokichoggio (8) and Songot (6) wards in Turkana West sub-County.

Table 17: Distribution of Community Drug Distributors Interviewed in Turkana West sub-County in 2023.

Ward	In-depth Interviews conducted with CDD
Kakuma	3
Kalobeyei	5
Lokichoggio	8
Songot	6
Total	22

4.8.1 Summary of the themes and subthemes from Key-Informant and In-depth interviews

Table 18: Summary of the themes and subthemes for Key-Informants interviews among sub-County Trachoma Program Experts in Turkana West sub-County in 2023.

Themes	Sub-themes
Program determinants	Seasonal timings Community Sensitization and Mobilization Supplies for Trachoma MDA Training and Capacity Building Technical Support

Table 19: Summary of the themes and subthemes for In-depth Interviews among Community Drug Distributors in Turkana West sub-County in 2023.

Themes	Sub-themes
Program determinants	Capacity of CDD Convincing Power Motivation Technical Support during Trachoma MDA
Community determinants	Compliance during Trachoma MDA

4.8.2 Key-Informant Interview Findings

4.8.2.1 Program factors

The findings from the key informant interviews (Table 18) revealed that the subthemes for program determinants of drug uptake during mass drug administration (MDA) for trachoma include seasonal timings, community sensitization and mobilization, supplies for Trachoma MDA, training and capacity building, and support during Trachoma MDA, which determines drug uptake during mass drug administration for trachoma.

4.8.2.2 Seasonal Timings during Trachoma Mass Drug Administration

From the key informant's perspective and experience, it is noted that the implementation of trachoma mass drug administration depends on the season because 60% of the population in Turkana West sub-County is nomadic. Improper season timings in the performance of Trachoma MDA led to missed opportunities due to the population's migration in search of pasture and water.

“Like the MDA we conducted last year, we did it in the month of September, and you know those months are months where the dry spell season was. And then most of the pastoral communities had moved to Uganda, so they were not captured”- (Key

Informant—003)

It is also noted that migration of the nomadic population is seasonal and could affect the uptake of drugs during mass drug administration for trachoma, considering their movement in inaccessible areas in Turkana West sub-County and to neighboring countries such as Sudan and Uganda.

“During the dry season, there is lack of pasture and water within Turkana West, so majority of the population moves to Uganda to search for water and pasture”-(Key

Informant—004)

In addition, it is noted that regarding seasonal migrations of the nomadic population, access to the newly settled location or during migration was found to be challenging due to the vastness of the area and areas with no or inaccessible roads, especially during harsh weather, e.g., rainy seasons.

“Turkana West is vast; there are many places that cannot be reached because there are no roads; these people are nomads.” -(Key Informant—002)

4.8.2.3 Community Sensitization and Mobilization

Community participation and drug uptake are majorly influenced by community mobilization and sensitization. The key informants revealed that pre-MDA mobilization and sensitization was an effective strategy for community drug uptake during mass drug administration for trachoma. Using the available trusted structures for mobilization and sensitization, such as Sub Chiefs in Barazas, village admins at the village level, and Community Health Volunteers (CHVs) at the household level, efficiently created awareness of the planned MDA in the community.

“We are using stakeholders, probably the Subchiefs, the village admins, like that’s the ground level people and the CHVs and the village elders. So, we engage them a week prior to the mass distribution week. So, the mobilization is done well cause everyone gives the information.” -(Key Informant—002)

The key informants also noted that using local radio stations for sensitization before Trachoma MDA effectively increased community participation and drug uptake. Furthermore, using the Public Address System for a week or so in areas with low access to the radio; wards in rural areas, influenced drug uptake during the implementation of MDA for trachoma. The sub-County also writes sensitization letters to churches, mosques, and schools that communicate or sensitize their congregation, students or pupils on the planned mass drug administration.

“Through the Public Address System, there is a vehicle doing sensitization along the, where the households are...also there is the use of the media, that is the radio. We have various channels through which the community is sensitized to the Mass Drug Administration. And also, through churches, mosques and so forth” -(Key Informant—004)

The sensitization and mobilization of the nomadic population are essential for the

acceptance of drug uptake and community participation. According to the key informants, mobilization, sensitization, and implementation of the mass drug administration to the nomadic population is conducted concurrently due to challenges of access to the population. The Kraal leader and community health volunteers (CHVs) provide migratory routes and locations for the nomadic population.

“In this migratory population, there are always Kraal leaders..we get in touch with the Kraal leader, and then now through the Kraal leaders, we can be able to reach out to this population and do some sensitization...But in this aspect, the kind of sensitization what we always do is that we do reach the community or the Kraal where this population are; we do one on one sensitization and we do drug administration at the same time cause it is quite far, these are hard to reach areas such that you cannot; it is a hard to reach area and it is at the same time insecure. So, we do one package that is sensitization and drug administration at the same time through the Kraal leaders...”- (Key Informant—004)

However, community mobilization and sensitization are cumbersome in unique situations, such as in inaccessible areas, during transit or nomadic populations that have crossed the border. This results in missed opportunities and a lack of prevention, control, and treatment of sporadic cases of trachoma in the community.

“It was cumbersome because of the poor road network, there was no mobile network and again they (nomadic population) had moved to the other border, across the border or to Uganda, so we could not, we were unable to reach them with the sensitization and mobilization...”-(Key Informant—003)

4.8.2.4 Supplies for Trachoma Mass Drug Administration

The availability of the supplies is vital for successfully implementing the trachoma mass drug administration. These include medical supplies: azithromycin tablets,

tetracycline ointments, and measuring instruments, such as a weighing scale and measuring tape/boards. The key informants indicated that the medical supplies, azithromycin and tetracycline ointments, are always in sufficient quantities during MDA for trachoma. However, its availability is donor-dependent, and the supply of azithromycin tablets to the Turkana West sub-County is inconsistent, which determines the uptake of drugs and consistency of the annual mass drug administration for trachoma.

“Yeah, tetracycline has always been there, but the tablet is not consistent because it is only available during mass drug administration “- (Key Informant—002)

“I can attest that they have not been adequate because the drugs that we usually get is mostly when we have MDAs” -(Key Informant—001)

The key informants revealed that the measuring instruments used during MDA for trachoma were stored in respective health facilities and were insufficient for the exercise. The measuring tools are instrumental in dosing azithromycin tablets during mass drug administration for trachoma.

“...for measuring tools, on the first place we were using wooden sticks and then they came to plastic strips which is not sufficient for the whole exercise...” -(Key Informant—003)

4.8.2.5 Training and Capacity Building

Community adherence to drug uptake during mass drug administration for trachoma is also determined by the team’s capacity to implement the drug administration at the community level. According to the key informants, the administration of drugs at the community level involves clinicians at link facilities and community health volunteers.

“...a team composed of two healthcare workers and a community health volunteer...it is actually the qualified staff, that is the healthcare worker doing the drug administration at the community level...” -(Key Informant—003)

From the interviews conducted with the key informants, it is noted that health worker training is held centrally at the sub-County headquarters. The sub-County trainers of trainees (TOTs) conduct the training of the health workers.

“We have the sub-County TOTs, the sub-County TOTs in this context are the sub-County Pharmacist, sub-County Eye Coordinator, the HRIO, we have the sub-County Public Health Officer, we have the Surveillance Coordinator, I think those ones, and of course the sub-County Community Strategy Focal Person” -(Key Informant—004)

The training is later cascaded to the community health volunteers; the health workers conduct the training under the ward supervisor’s supervision.

“The healthcare worker who is the vaccinator and the supervisor for the ward. You know each ward had a supervisor for MDA, so it is the supervisor and the vaccinator who trains the CHVs.....” -(Key Informant—003)

The training conducted for healthcare workers covers the epidemiology of trachoma disease, the distribution strategy, the target population, the use of measuring instruments, the dosage for the drug for various ages, and the possible side effects during drug administration.

“The training entails the epidemiology of the disease, the signs, and symptoms of the disease, drug administration, the dosage of the drug, who is supposed to be given, for example, the tablets, who is, for example, going to be given the syrups and how to assist the process to be given to a particular person.” -(Key Informant—001)

The quality of training is fundamental in addressing issues raised by the program's beneficiaries and resolving community adherence challenges to drug uptake during the implementation of mass drug administration for trachoma.

“It's about the pharmacology of these drugs, the target groups and their dosing and finally the monitoring and evaluation(M&E) component, that is the reporting.” -(Key Informant—004)

From the key informants, it is noted that the training period of healthcare workers tasked with implementing mass drug administration for trachoma takes between two hours and one day, on the higher side, equating the training to sensitization.

“I don't think it is adequate cause some; it needs to be a training not a sensitization because what has been happening it has been a sensitization...” -(Key Informant—002)

Furthermore, it is noted that the time allocated for building the capacity of healthcare workers to implement the program objectives is inadequate, which might result in community non-adherence to drug uptake during mass drug administration for trachoma.

“It is usually not adequate because sometimes we do it for two hours because what is provided is lunch and maybe transport, which is not sufficient” -(Key Informant—003).

According to the key informants, the duration and quality of training are determined by the available logistical support from the Trachoma Program. The budget, or donor support, dictated the number of healthcare workers and community health volunteers invited and trained in implementing the mass drug administration for trachoma.

“The training sometimes may not be adequate sometimes because of the issues of logistics....” -(Key Informant—001)

The available logistic support determined the number of community health volunteers engaged in the training and implementation of trachoma MDA, which influences the uptake of drugs during administration at the community level.

“Usually the CHVs, who sometimes, we might not be able to train all (the CHVs), so we pick some....” -(Key Informant—001)

4.8.2.6 Support during Trachoma Mass Drug Administration

Support from the Trachoma Program in the form of supervision and technical and mobility support during mass drug administration is essential for community participation and adherence to drug uptake. The key informants revealed that technical assistance, the supply of medications to link facilities, the provision of vehicles for the hard-to-reach areas’ teams, and stipends were some of the support provided during the mass drug administration for trachoma.

“...supervise, go through the ward and the sub-County, and see how the work is being done. So that they can maybe point out the weakness and the areas of improvement as the exercise goes on...” -(Key Informant—003)

However, it is noted that the implementation of MDA for trachoma depends on the donor budget, which also dictates the number of teams allocated to administer the drug.

“This one is dependent on the donor budget because we depend on the donor. When we have the budget, we assign teams based on the budget. And always the budget is not favourable to us cause this area is vast and we need so many teams. So we are made to ensure we use what we have...” -(Key Informant—002).

Nevertheless, the key informants highlighted that despite the logistical constraints during the mass drug administration, the program improvises in some situations and maximizes the available resources to achieve a desirable outcome.

“...one thing to note about this campaign is that resources are never adequate...we do use the minimal number that we do have and try to maximize to achieve the desired target; in this context, for the hard to reach areas, we also improvise the use of motorbikes to access the areas where the vehicles cannot reach.....we do try as much as possible to use the little resources that we have for a larger impact on our population...”- (Key Informant—004)

4.8.3 In-depth Interview Findings

The in-depth interview revealed program and community determinant themes (Table 4-29) for drug uptake during Trachoma MDA. The program subthemes were capacity of community drug distributor, convincing power, motivation and technical support during Trachoma MDA. The subtheme for the community theme includes compliance during Trachoma MDA.

4.8.3.1 Program Theme

4.8.3.1.1 The Capacity of Community Drug Distributors

From the in-depth interviews conducted with the Community Drug Distributors (CDDs), also called Community Health Volunteers (CHVs), it was noted that most of the CDDs participated in the last mass drug administration for trachoma conducted in Turkana West sub-County. The CDDs were selected to participate in the Trachoma MDA because they not only served their respective villages on matters of health, but they were also cognizant of the village terrain, community including the location of the households and the number of household members, thus determining community adherence to drug uptake during mass drug administration for trachoma.

“I was selected as a CHV so that I can assist the health workers in translating, showing ways, and convincing the community to take the trachoma drugs; mention what the drug is for and what it prevents just in case someone refrains from taking the drug as well as assist in the drug distribution process by providing water for drug taking at that time instead of community member keeping the drug.” -(CDD—003).

The capacity for conducting health talks through quality sensitization sessions at the community level depends on the CDD's work experience. It is noted that the work or volunteering experience for CDDs serving the host population ranged between five and thirteen years. The volunteering experience for CDDs serving in or for the refugee population ranged between four months and five years.

*“I have been a CHV for one and a half years. I began working in 2022 on March” -
(CDD—025)*

Most of the CDDs underwent training on trachoma, which ranged between two hours and three days on the higher side before the mass drug administration for trachoma was implemented. However, some of the CDDs revealed that they did not undergo any training, considering the healthcare workers were tasked with administering the drug to the community members.

“...yes, no one trained us. You know that they will use a health worker who is based at the health facility; therefore, we were instructed to accompany the health worker to our villages. No one was trained on how to administer the drugs to the community members....” -(CDD—011)

The CDDs' training mainly covered trachoma disease, ways of transmission, signs and symptoms, prevention, referral of suspected cases to the health facility, dosing of azithromycin tablets, benefits of taking the drug, and how to disseminate the information at the community level.

“I was taught how to mobilize the community and disseminate information on the planned exercise, about the drugs to be given, the purpose of the activity, which is to prevent eye diseases and the importance and the benefits of taking the drug” -

(CDD—002)

Regarding knowledge of trachoma disease, the CDDs appeared to have adequate information about the disease, mode of transmission, treatment, and prevention.

“Trachoma is a disease affecting the eyelashes of the eye, making the eye red. We were taught about trachoma disease; we were told that it is caused by poor hygiene and flies. The moment when nomadic pastoralists have goats or livestock near, there are flies that come from animal droppings, so the many flies mainly land on the eyes, and then its dirt transmit trachoma disease.....”- (CDD—012)

On matters of quality of training, most of the CDDs revealed that their training was sufficient for them to conduct the mass drug administration for trachoma in their villages without any challenges or difficulties. However, other CDDs had reservations about the quality of training because only the healthcare worker was tasked with administering the drug at the community level.

“No, the training was not adequate. We need further training since it was the health workers distributing the drugs and we were only tasked with leading them to the households, measuring and carrying the equipment” -(CDD—007)

4.8.3.1.2 Convincing Power

Most of the CDDs revealed that they believed that the drug distributed during mass drug administration prevented transmission of trachoma.

“Yes, in fact, I believe it prevents trachoma since after people started taking the drugs trachoma cases have subsided. The cases are now rare, maybe one or two compared to when cases were high...” -(CDD—002)

Furthermore, community adherence to drug uptake during the mass drug administration for trachoma is noted in most villages after CDDs' sensitization and health talk sessions to the community.

“There are others who easily accept while there are some who refuse or refrain due to lack of knowledge on the drug. However, they are undertaken through health education or sensitization slowly to inform them the type of drug and why it has to be taken till the person understands” -(CDD—026)

“The community members easily accepted to take the drug. This is because we first called and mobilized for a meeting in a baraza to discuss about the drug; women mentioned the drugs improved their vision.” -(CDD—010)

According to the CDDs, sensitization, health talks, illustrations, and CDDs' drug-taking demonstrations conducted at the community level before the mass drug administration for trachoma are methods used to influence community participation and adherence to the uptake of drugs.

“For me, I am a Burundian, if I haven't swallowed the drug, I swallow it in front of them to demonstrate the drug is good. I have to convince him or her since it's my work....” -(CDD—030)

4.8.3.1.3 Motivation

The effectiveness of the Trachoma program depends on the team's efficiency and motivation to implement mass drug administration for trachoma. From the in-depth interview with the CDDs, it was noted that motivation for trachoma during the MDA takes various forms: monetary and non-monetary benefits for those selected to implement the program. Most of the CDDs revealed insufficient financial benefits or

motivation ranging from 500kshs to 1000kshs provided by the Trachoma Program during the program's implementation at the community level.

“The one thousand shillings is not enough because, on the time we go for outreaches, in the interior places, there are areas that are inaccessible using a vehicle, from where the road ends, depending on the area, one might walk between one to two hours searching for the nearest households to administer the Trachoma drugs. You can also head to the interior areas and return very late...” -(CDD—008)

In addition, the CDDs also claimed that their stipends are delayed and, in some cases, not disbursed, brewing conflicts between them and health workers.

“The problem was that the organization supporting the activity delayed the disbursement of the payments. The delay was like three to four months. This was discouraging in a way.” -(CDD—002)

Apart from monetary benefits or motivation, it was noted that the CDD appreciated non-monetary encouragements during mass drug administration for trachoma, the community's acknowledgment of their good service, and the self-satisfaction from offering volunteer services to the community.

“First, I can say I enjoy doing it because I am trying to change my community by eliminating eye problems. Secondly, I gain knowledge on trachoma disease and ways to prevent it, so we can assist the health workers in providing health services to the community. And at the end of everything, there is at least some motivation.” -

(CDD—004)

4.8.3.1.4 Technical Support during Trachoma MDA

From the in-depth interviews conducted with CDDs, most of the teams in the villages received technical support in implementing mass drug administration for trachoma in the form of supervision and mobility support for the hard-to-reach groups.

“Yes, we implemented the MDA for trachoma with the support of vaccinator, supervisors from the facilities, and those from the sub-County.” -(CDD—004)

However, some of the CDDs mentioned that apart from the technical support from the clinicians or healthcare workers from the link facilities, they didn't receive technical and mobility support from the sub-County level during mass drug administration for trachoma.

“No, we didn't have any vehicles. When we went to the hospital to pick the drugs and implement the MDA for trachoma, we went on foot.” -(CDD—005)

4.8.3.2 Community Theme

4.8.3.2.1 Compliance during Trachoma MDA

Most CDDs revealed that the teams practiced a directly observed therapy (DOT) to ensure community compliance with drug uptake during mass drug administration for trachoma. Where possible, jerricans with clean water and cups were carried to facilitate the swallowing of the drug on-site during the program's implementation at the community.

“Yes, we were directly observing them take or swallow the drug. I carried a five-liter jerrican of water and a cup. So that when someone is given the drug, he/she takes it...As I have told you, that drug can be used to treat animals....so there are chances he or she would not take it. Therefore, if you instruct them to take the drug there, they take...” -(CDD—003).

The in-depth interviews with the CDDs showed that the community's non-compliance to drug uptake on-site is fear of the drug's side effects, especially with an empty stomach.

“The community members who refrained from taking the drug mentioned that it was a requirement for them to take the drug on a full stomach since taking it on an empty stomach might make them weak.” -(CDD—016)

Furthermore, the CDDs mentioned that some community members refrain from taking the drug for fear of sterility; most mass drug administrations are clouded with myths about family planning, which can be demystified through sensitization and health talks before program implementation.

“People who refrained from taking the trachoma drug mention that when they take the drug, they will be sterile or barren; we told her that there were women CHVs who had taken the trachoma drugs, and they were still ok.” -(CDD—030)

4.8.4 Mind Map on Determinants of Drug Uptake during Mass Drug Administration for Trachoma in Turkana West sub-County in 2023.

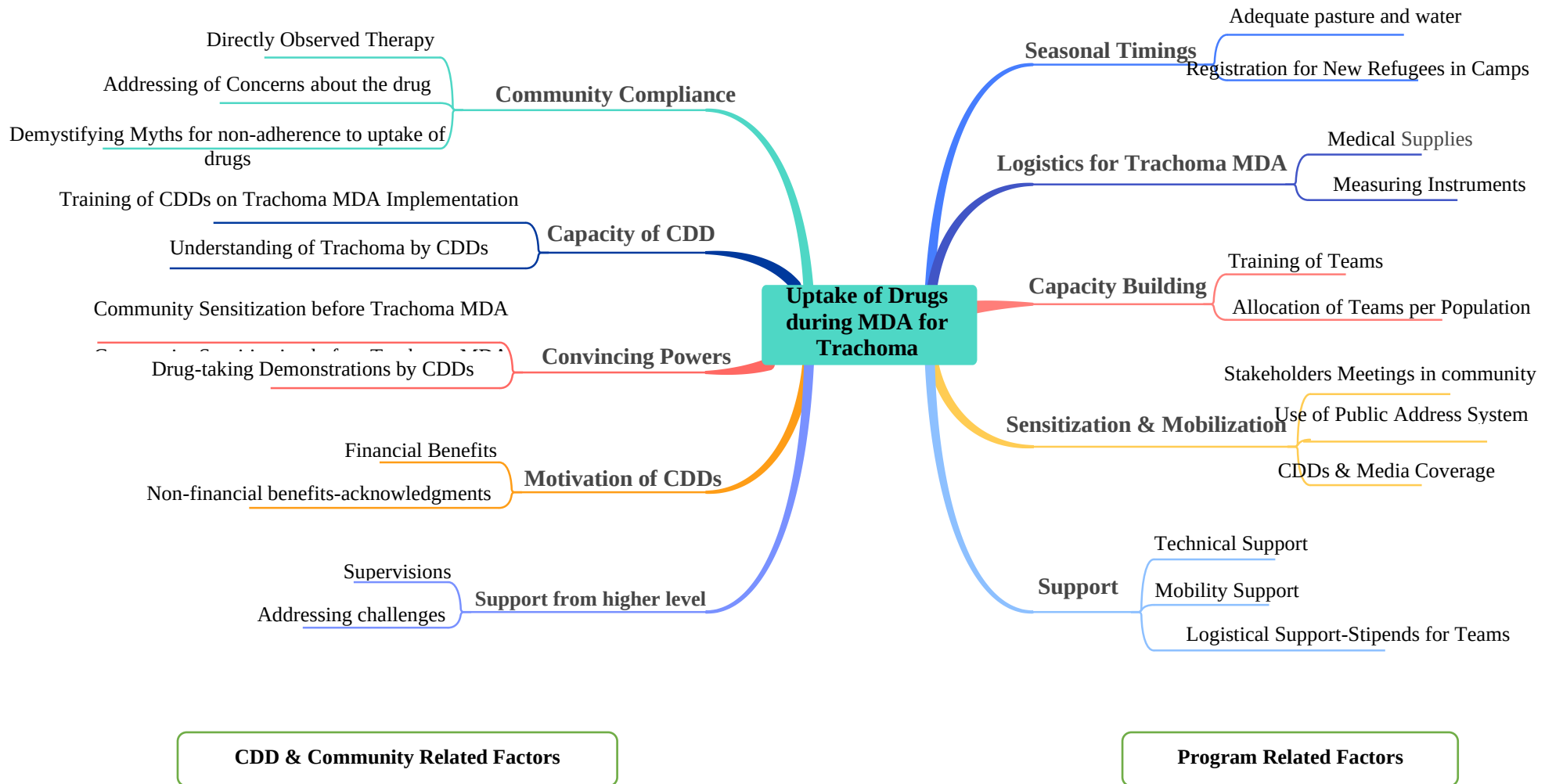


Figure 8: Mindmap on Determinants of Drug uptake during Trachoma Mass Drug Administration in Turkana West sub-County in 2023

CHAPTER FIVE

5.0 DISCUSSION

This chapter presents a discussion on the interpretation and implications of the study findings on the treatment coverage of mass drug administration for trachoma, the sociodemographic, community and program determinants of drug uptake during mass drug administration for trachoma.

5.1 Overview

Trachoma still prevails in Turkana West sub-County even after the implementation of seven rounds of annual azithromycin mass drug administration, indicating that the threshold to interrupt trachoma transmission was not attained, and the implementation of mass drug administration (MDA) for trachoma in this area was not successful hence implying an increased risk of further transmission at the community level. Limited evidence indicates the reduction of interruption thresholds for trachoma within the sub-County despite the 81.94% average azithromycin treatment coverage reported on the MDA for trachoma conducted in 2022. The study assessed the sub-County reported and self-reported treatment coverage and analysed the socio-demographic, community and program determinants of drug uptake during MDA for trachoma.

5.2 Sub-County Reported and Self-reported MDA Coverage for Trachoma

This study documented an azithromycin treatment coverage of 81.94% from the trachoma registers reviewed for the MDA for trachoma conducted in 2022 in Turkana West sub-County, with only Kakuma ward (76.54%) below 80%, a minimum treatment target coverage recommended by WHO (Xiong et al., 2021). The self-reported azithromycin treatment (AMT) coverage was 77.73% for Turkana West sub-County, with Kakuma ward (64.84%) and Lokichoggio ward (78.91%) below WHO recommended coverage. The study's findings are comparable with self-reported AMT

treatment coverage of 76.8% in a study conducted on a population-based MDA coverage survey in Amhara, Ethiopia (Astale et al., 2018). Although recall bias could influence the self-reported coverage findings from the survey conducted in Turkana West sub-County, the data obtained from the desk review of the trachoma registers for Turkana West sub-County for the same year showed some discrepancies; the registered sub-County coverage was higher than that from the survey (81.94% vs. 77.73%). A study with a similar type of discrepancy in azithromycin mass treatment (AMT) coverage conducted and observed in Plateau State, Nigeria, indicated an overstatement of 75.8% coverage obtained from administrative MDA compared to the 60.3% obtained from survey point estimate data (Cromwell et al., 2013). Another study with a discrepancy in AMT coverage conducted in Northwestern Ethiopia reported a higher AMT coverage of 96.2% obtained from official district health records, contrasting with 92.8% of AMT self-reported coverage from the same year (Tilahun & Fenta, 2018). Other studies conducted in Northwest Ethiopia (Tilahun & Fenta, 2018), Southeast Ethiopia (Feyisa et al., 2022), and Plateau State, Nigeria (Cromwell et al., 2013) with AMT below the 80% recommended WHO coverage for MDAs found low AMT coverage as probable transmission interruption barriers for trachoma. Identifying barriers to optimal drug uptake to improve compliance during MDA for trachoma is essential. This implies that the coverage of MDA for trachoma in Turkana West sub-County was sub-optimal (77.73%), lower than the WHO recommended target of 80% and above (Xiong et al., 2021), for the successful interruption of community transmission of trachoma.

5.3 Socio-demographic determinants for drug uptake during MDA for Trachoma

In this study, age was a significant determinant for community compliance to drug uptake during MDA for trachoma, and compliance increased with age, which deduced that the older participants were more motivated and eager to participate in the azithromycin mass treatment (AMT) than the younger ones. The study findings also deduced that an increase in age was significantly associated with AMT uptake in participants above twenty-five years old compared to participants below twenty-five years old. This study finding aligns with a survey conducted in a community-based cross-section in Northwestern Ethiopia that found that older age-group respondents were more likely to comply with AMT uptake than younger ones (Tilahun & Fenta, 2018). However, the findings from this study contradict a systematic review study conducted on predictors for the uptake of preventive chemotherapy that rendered an unclear relationship between age and AMT coverage (Torres-Vitolas et al., 2021). This implies that the significant disassociation in AMT uptake for the participants below twenty-five years old impacted the effectiveness of the MDA program, which led to the continued spread of trachoma. In this regard, through suitable channels, age-specific sensitization and mobilization on trachoma and the benefits of drug uptake could be conducted to upscale AMT uptake for the participants aged below twenty-five.

The study found that participants' marital status, gender, and education status were not statistically associated with drug uptake during MDA for trachoma. The possible explanation might be that the compliance with drug uptake by the household head, married, single, male, or female, might influence most of the other family members to participate in AMT. This agrees with a study conducted by Tilahun *et al.*, indicating no significant difference associated with gender and AMT uptake (Tilahun & Fenta, 2018).

Furthermore, there was no clear association between education status and drug uptake during MDA for trachoma; this implies that associating low education levels with inadequate knowledge of trachoma could not be a significant barrier to drug uptake. However, this does not mean that there is no association, as depicted in a study conducted in Southeast Ethiopia on associated drug uptake factors, which indicated that participants with tertiary-level education were seven times more likely to comply with AMT uptake compared to those with no formal education (Feyisa et al., 2022).

Moreover, the findings from this study indicated that there was no statistical significance associated with religion and location of the village, rural or urban, with drug uptake during MDA for trachoma. A possible explanation might be that religious leaders are among the stakeholders engaged before implementing AMT campaigns. In addition, the implementation teams visit and sensitize congregations in churches, mosques, and other places of worship before or during drug administrations. The lack of significant association with AMT uptake in rural or urban areas might imply rapid urbanization or migration in Turkana West sub-County because sixty percent of the area's population are nomads. However, my study's findings contradict studies conducted in Northwestern Ethiopia (Tilahun & Fenta, 2018), the South East of Tigray in Northern Ethiopia (Mulugeta et al., 2018), and the Goro district in Southeast Ethiopia (Feyisa et al., 2022) that found significant differences in AMT uptake in rural and urban areas.

The study also showed no significant association of AMT uptake with occupation status. This study's finding contradicts studies conducted in Coastal Kenya, which found significant differences in the respondents' occupations with drug uptake during MDA. The participants with occupations of low socioeconomic status were willing and ready to accept free services compared to those of higher status (Njomo et al., 2020).

The study's findings also revealed that the village settlement type was significantly associated with AMT uptake. The probable explanation could be that implementing MDA utilizes various administration strategies, such as the house-to-house strategy, which implies increased compliance with AMT uptake in confined and gated communities. Furthermore, hard-to-reach area teams traced and administered AMT to nomadic populations. The findings are consistent with a study done in Northern Ethiopia (Mulugeta et al., 2018) that showed the commitment of Community Drug Distributors to access households and hard-to-reach areas to reach the older people who could not access the drug administration points.

5.4 Community and Program determinants for drug uptake during MDA for Trachoma

The study's findings indicated the respondent's awareness of trachoma disease was statistically significant to drug uptake during trachoma MDA. The respondents who were aware of trachoma disease had nine times higher odds of complying with the azithromycin mass treatment (AMT) uptake than those who did not. This finding is consistent with a study by Feyisa *et al.*, in Southeast Ethiopia, which found that trachoma knowledge was significantly associated with AMT uptake (Feyisa et al., 2022). A possible explanation could be that the AMT uptake might be strongly motivated by the generalized understanding of the trachoma disease's cause, symptoms, and consequences. Moreover, in this study, community mobilization and mobilization was statistically significant to AMT uptake. The participants who attended mobilization or a health education session had two times higher odds of complying with AMT uptake than those who did not attend. This finding aligns with a study conducted by Maritim *et al.* that reported a significant association between knowledge and awareness of community indicators and the uptake of AMT (Maritim, 2017). The findings

underscored the importance of community mobilization and sensitization before implementing the MDA for trachoma; this implies that enhancing the participant's understanding of the drug's purpose, side effects, and benefits increases AMT uptake (and coverage). This evidence points to the potential for increased drug uptake through awareness creation and enhanced risk communication and community engagement on trachoma.

The study also deduced that participants who received the information about the planned trachoma MDA had three times higher odds of complying with AMT uptake than those who did not. This finding agrees with a study conducted in Livingstone District in Zambia, which indicated that community awareness of the trachoma MDA program impacts the MDA reception and uptake (Maritim, 2017). The study's finding is consistent with a study conducted by Mulugeta et al. in Northern Ethiopia, indicating that social mobilization was conducted for respondents before the MDA for trachoma (Mulugeta et al., 2018). Additionally, the results aligned with a study by Ebert *et al.*, that indicated a significant influence on trachoma MDA participation following community awareness about impending MDAs. According to the findings, sensitization and mobilization determined the community's program reception and AMT uptake. The stakeholder engagement meetings with the chief, sub-chiefs, village admins, community, kraals, and religious leaders significantly influenced the uptake of AMT; this is consistent with a study conducted in Sub-Saharan Africa indicating that the involvement of relevant stakeholders in social mobilization at the community level before the MDA is essential and a crucial element in strengthening efforts in drug uptake (Torres-Vitolas et al., 2021). Apart from the mobilization and sensitization sessions held in the community by Community Drug Distributors (CDDs), the use of local radio stations to sensitize the community in respective wards in Turkana West

sub-County effectively influenced the uptake of drugs during MDA for trachoma. The study established that effective social mobilization activities before or during trachoma MDA campaigns are essential for successful program implementation. This implies that prior advocacy communication and social mobilization at the community level before and during mass drug administration is essential for increased drug uptake during AMT. Consequently, the study deduced statistical significance in sharing posters or leaflets on trachoma before or during implementation with the AMT uptake. The respondents who had access to a poster or received leaflets with information on trachoma had two times higher odds of complying with the uptake of AMT than those who did not. A possible explanation might be that using the visual illustration in the presentation of the disease on the posters and leaflets influenced compliance to AMT uptake. In the same breath, according to the findings, demystifying the existing myths about azithromycin, its distribution and administration process, the target population, and its purpose in the community significantly improved the reception and AMT uptake, given that most MDA are tagged with myths of family planning treatment, which leads to non-compliance of drug uptake, primarily if not adequately addressed. This study's findings are supported by a study conducted in Northern Ethiopia that mentioned misconceptions and rumors such as fertility control, significant barriers to drug uptake during AMT (Mulugeta et al., 2018). These findings highlight the importance of using information, education, and communication materials such as posters, brochures, and leaflets. These materials contain illustrations and photos and are more convincing and draw more attention to information on the disease and risk involved, thus increasing drug uptake during MDA. Consequently, tackling any questions about misconceptions or misinformation about the drugs can increase uptake during MDA for trachoma.

Furthermore, the study also found that the complementary use of the Public Address (PA) System mounted on a vehicle to sensitize in wards with low or no radio receptions increased AMT uptake in the rural areas of Turkana West sub-County. This study finding aligns with a study conducted by Torres-Vitolas *et al.*, in Sub-Saharan Africa that showed that the use of multiple means and operational features of sensitization, such as communication from public officials at the district level, radio campaigns, leaflets, road shows in urban residences, community funeral gatherings, and associations reported successful MDA campaigns (Torres-Vitolas *et al.*, 2021). The results imply that effective use of public address systems in rural areas in addressing the risk of trachoma and the benefits of the drug influence drug uptake during MDA for trachoma. Participants' knowledge of the frequency of MDA for trachoma was significantly associated with MDA uptake. Participants who knew about annual MDA for trachoma had two times higher odds of complying with AMT uptake than those who were not knowledgeable. This highlights the importance of the participant's knowledge about azithromycin, the benefits, the side effects, the frequency, and the target population, which promotes compliance and adherence, thus increasing AMT uptake in the community.

The house-to-house strategy was significantly associated with AMT uptake. The participants had three times higher odds of complying with the AMT uptake when the administration teams offered drugs at their houses than at other venues. The finding agrees with a study done in rural and urban Tanzania, where most of the respondents' uptake of drugs during MDA was associated with drug administration at their homes (Kisoka *et al.*, 2014). Another study in Sub-Saharan Africa agreed with these findings, indicating better results were derived from door-to-door visits (Torres-Vitolas *et al.*, 2021). Consequently, allocating adequate teams in populated areas capacitated the

teams to cover the area was significant to the uptake of AMT. Furthermore, allocating hard-to-reach area teams ensured that the population that was distanced or had settled in inaccessible areas was covered, hence increasing drug uptake during AMT. This implies that effective programming and planning for the mass drug administration are crucial for ensuring efficient physical coverage by the drug administration teams, which enhances community accessibility and drug uptake during AMT.

Hearsay about someone's experience of the side effects of azithromycin negatively influenced the AMT uptake. The participants had four times higher odds of not complying with AMT uptake after hearing about someone else's side effects than those who did not. This finding is consistent with a study conducted in Southeast Ethiopia, which found that respondents who heard about the severe adverse effects of azithromycin from another person were seventy-five per cent less likely to comply with AMT uptake (Feyisa et al., 2022). Additionally, the findings aligned with a study conducted in Sub-Saharan Africa, indicating that fear of side effects was the most salient barrier to treatment uptake during MDA (Torres-Vitolas et al., 2021). This suggests that the implications of the side effect events gravely impact drug uptake during MDA. Consequently, the findings could inform the development of a participant/patient guideline on the benefits of the drug uptake, the possible side effects, and the steps to take for the adverse effects.

The community compliance strategy was a determinant of azithromycin drug uptake during MDA for trachoma. According to the findings, community compliance to azithromycin mass treatment (AMT) uptake was ensured through directly observed therapy (DOT) during MDA for trachoma; the drug is administered to the community member on-site, water in a cup was provided where necessary, and the drug uptake was directly observed. This implies that the directly observed therapy determined drug

uptake and ensured increased adherence to drug uptake during MDA for trachoma. The study findings also indicated that the capacity of the Community Drug Distributors to implement MDA for trachoma was a significant determinant of drug uptake. The capacity of the Community Drug Distributors (CDDs), as determined through Pre-MDA training, not only imparted knowledge but also motivated the CDDs to participate intensively in drug administration. The capacity of the CDDs also determined how issues or doubts about the drug raised by the community were addressed, hence an essential program determinant of AMT uptake. This finding aligns with a study conducted in Southeast Tanzania, which found that the training of CDDs built knowledge to handle issues raised by the community on the drug administration and build their confidence, thus ameliorating their performance (Mhiche, 2019). Furthermore, the capacity of the CDDs built up on the convincing powers that were a significant determinant of drug uptake during MDA for trachoma. Consequently, the study found that the CDDs inspired and convinced the community by being the first to take the drug at the community level, which increased compliance with AMT uptake. This study's findings concur with a study conducted by Mulugeta *et al.*, which found that CDDs used role models at the community level to convince and inspire the community members through drug taking, which led to increased AMT uptake (Mulugeta et al., 2018). The study finding highlights the pivotal role the CDDs play during MDAs. In addition, the CDDs' knowledge of trachoma and the benefits of azithromycin play an essential part in convincing and influencing the community on drug uptake during MDA for trachoma. Therefore, the sub-County Trachoma Program must ensure that the CDDs are capacitated through training during Pre-MDA, a significant determinant of increased drug uptake during MDA for trachoma.

Motivation among CDDs was a determinant of drug uptake during AMT. According to qualitative study findings, the ability of the CDDs to be inspired and conduct drug administration is determined by the level of motivation, including financial and non-financial benefits such as acknowledgments. This study finding is consistent with a study conducted in Sub-Saharan Africa, where challenges from incentives or compensation for drug distributors had potential effects on performance and attrition (Torres-Vitolas et al., 2021). The study results imply that the CDDs' motivation is a fundamental determinant of drug uptake during MDA for trachoma. In addition, technical, mobility, and logistic support to CDDs from a higher level-built team spirit and increased the performance of the administration team; given that technical support offered to CDDs through close supervision installed confidence in the community on the drug administration process and inspired compliance of drug uptake during AMT in the community. This finding is consistent with a study conducted in Liberia, which indicated that supporting mobility for CDDs and compensating for the cost incurred during MDA implementation ensured satisfactory benefits and retention of the CDDs (Agboraw et al., 2021).

The findings from the study indicated that season timing significantly affected the AMT uptake. Sixty percent of the population in Turkana West sub-County is nomadic, which implies frequent migration of most of the population (and villages) in search of pasture and water for their animals during dry seasons, leading to missed opportunities during azithromycin mass treatment (AMT). This study's finding aligns with a study by Mtuy *et al.*, indicating that the livelihoods of pastoralists are centrally impacted by climatic conditions that optimally dictate the timing for community-based interventions (Mtuy et al., 2021). In addition, competing programs' timings also affect AMT uptake in refugee camps. These findings have significant implications for drug uptake during

MDA for trachoma. Therefore, the sub-County trachoma program should then consider integrating the administration of drugs into programs to increase drug uptake. In addition, the findings underscore the need for policy changes in health services for nomadic populations, such as community outreach programs and tracking the movements of nomadic populations to ensure effective drug uptake during MDA for trachoma.

The findings also showed that logistics for MDA for trachoma determined AMT uptake. The timely distribution of medical supplies and measuring and documenting tools was significant to AMT uptake. This study finding is supported by a study conducted by Mhiche *et al.*, in Tanzania, indicating that performance and coverage in MDAs are inclined to key programmatic factors such as management and recording of drug supplies, which could be challenging at times (Mhiche, 2019). According to the study findings, the availability of medical supplies for MDA for trachoma in Turkana West sub-County was donor-dependent, which determined the consistency of the annual trachoma MDA and, to an extent, the AMT uptake in the sub-County. This finding is in agreement with a study conducted by Agboraw *et al.* showing confusion for both the community and CDDs arising from delays in the distribution of drugs, which hampered compliance to uptake of drugs during MDA (Agboraw *et al.*, 2021). The findings highlight the importance of the coordination, management, and cooperation at the sub-County Trachoma Program tasked with implementing the MDA for trachoma, which ensures a timely supply of drugs and seamless implementation of AMT.

5.5 Limitations of the study

Responses from the household head could have been affected by recall bias since the study was conducted five to six months after the last trachoma Mass Drug Administration (MDA) and relied on reports. Nevertheless, the reliability of the results

on azithromycin treatment coverage and determinants of drug uptake during MDA was ensured by using well-structured interview questions and mitigating recall bias with photo cues to stimulate the recall of study participants. In addition, the uniqueness of the ZithromaxTM tablets and the labeling of the tins eased the recall of the MDA for the participants.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusion and recommendations drawn from the study findings. The recommendations focus on strategically addressing the drug uptake during mass drug administration (MDA) for trachoma in Turkana West sub-County.

6.1 Conclusion

The study concludes that the treatment coverage during the last Mass Drug Administration for Trachoma in Turkana West sub-County did not attain the WHO minimum recommended coverage for Azithromycin. The study also demonstrated a discrepancy between the administrative coverage on registers' reports for mass drug administration for trachoma conducted in 2022 and the self-reported coverage obtained from the survey point estimate data from the community.

Being twenty-five years old and above was a significant sociodemographic determinant of drug uptake during mass drug administration for trachoma.

Awareness of trachoma, having received information about planned trachoma MDA, having attended a health education session on trachoma, coming across a poster or received leaflets on trachoma, being knowledgeable on the annual frequency of trachoma MDA and being aware of the house-to-house strategy used in trachoma MDA were significant community determinants to azithromycin uptake during MDA for trachoma.

Community compliance strategy, the capacity of community drug distributors (CDDs), convincing powers, motivation, and support from higher levels were significant CDDs-related factors to azithromycin uptake during MDA for trachoma. Logistics for trachoma MDA, season timings, capacity building, mobilization and sensitization, and

support of the trachoma program objectives were significant program determinants of the uptake of azithromycin during MDA for trachoma.

Hearing about someone's adverse side effects experienced with azithromycin, hunger during drug administration, and misconceptions about the drug or the administration process were barriers to azithromycin uptake during MDA for trachoma. Furthermore, the insufficient incentives for CDDs and inadequate time allocated for training led to ineffective implementation of MDA for trachoma.

6.2 Recommendations

The sub-County trachoma program should engage the community through health sessions to address the suboptimal drug uptake(coverage) during mass drug administration for Trachoma in Turkana West sub-County.

The sub-County trachoma program should also run age-specific effective mobilization and sensitization campaigns targeting community members under the age of twenty-five years, using social media campaigns or school-based initiatives in addressing benefits, concerns about the drug's side effects and the misconceptions of the community on azithromycin.

The sub-County trachoma program should conduct validation studies or surveys after mass drug administrations to determine uptake and assess strategies for conducting effective trachoma campaigns.

The sub-County trachoma program should review the incentives for the Community Drug Distributors, including introducing other modes of motivation for the effective implementation of trachoma Mass Drug Administrations in future. In addition, adequate time should be allocated to the training sessions for efficient understanding to enable the Community Drug Distributors to effectively conduct the mass drug administrations for trachoma campaigns.

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Appendices

Appendix 1: IREC Approval



MTRH/MU-INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)
MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 334711/2/3

Reference: IREC/390/2022
Approval Number: 0004351

Stephen J. O. Olubulyera,
Moi University,
School of Public Health,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Mr. Olubulyera,

DETERMINANTS OF DRUG UPTAKE DURING TRACHOMA MASS DRUG ADMINISTRATION IN TURKANA WEST SUBCOUNTY, TURKANA COUNTY, KENYA, 2022

This is to inform you that **MTRH/MU-IREC** has reviewed and approved the above referenced research proposal. Your application approval number is **FAN: 0004351**. The approval period is **9th February, 2023- 8th February, 2024**. This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, Material Transfer Agreements (MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **MTRH/MU-IREC**.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **MTRH/MU-IREC** within 72 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to **MTRH/MU-IREC** within 72 hours.
- v. Clearance for export of biological specimens must be obtained from **MOH at the recommendation of NACOSTI** for each batch of shipment.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to **MTRH/ MU-IREC**.

Prior to commencing your study; you will be required to obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and other relevant clearances from study sites including a written approval from the CEO-MTRH which is mandatory for studies to be undertaken within the jurisdiction of Moi Teaching & Referral Hospital (MTRH) and its satellites sites.

Sincerely,



PROF. E. WERE
CHAIRMAN

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE

09 FEB 2023

APPROVED

cc CEO - MTRH Dean - SOP
Principal - CHS Dean - SON
Dean - SOM
Dean - SOD



MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 334711/2/3
9th February, 2023

Appendix 2: NACOSTI License

 REPUBLIC OF KENYA	
Ref No: 320621	Date of Issue: 22/March/2023
RESEARCH LICENSE	
	
This is to Certify that Mr., Stephen Joram Onam Olubulyera of Moi University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Turkana on the topic: Determinants of Drug Uptake during Trachoma Mass Drug Administration in Turkana West Subcounty, Turkana County, Kenya, 2022 for the period ending : 22/March/2024.	
License No: NACOSTI/P/23/23952	
320621	
Applicant Identification Number	DIRECTOR GENERAL NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Verification QR Code	
	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

Appendix 3: Department of Refugees Approval



OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION
STATE DEPARTMENT FOR CITIZEN SERVICES
DEPARTMENT OF REFUGEE SERVICES

Website: www.refugee.go.ke
 E-mail: refugeeaffairs@refugee.go.ke
 Tel: +254-020-434-348-143/5, +254-020-4405057
 When replying please quote:

Corporate Place, Upper Hill, Kiambere Rd
 P.O. Box 42227 -00100
 Nairobi, Kenya.

DRS/OPER/2/22/Vol. XIV (168)

29th March 2023

Stephen Olubulyera
 Moi University
 +254 72120303
 P.O Box 4606-30100
 Eldoret.

RE: AUTHORIZATION TO VISIT KAKUMA REFUGEE CAMP

We refer to your letter dated 24th March 2023 regarding the above subject matter.

Authority has been granted to Stephen Olubulyera **Nationality; Kenyan Passport No; 24806813** to visit Kakuma refugee camp and Kalobeyei Settlement from April-May 2023.

The purpose of the visit is to conduct research on "Determinants of Drug Uptake during Trachoma Mass Vaccination in Turkana West Subcounty, Turkana County" this will involve collection of data among the refugee population at the camp.

This clearance however, is subjected to the following conditions:

- i. Adhere to all security and Covid-19 protocols at the camp.
- ii. Your visit shall be objective, balanced and in compliance with the Laws of Kenya.

On arrival, you will be required to report to the Camp Manager before transacting any business in the camp.

J.K. AWUOR

FOR: COMMISSIONER FOR REFUGEE AFFAIRS

Copy to: Camp Manager
 Kakuma refugee camp.

Appendix 4: Research Approval-County Commissioner



OFFICE OF THE PRESIDENT MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

Telegraphic address "DISTRICTER" LODWAR
Telephone: LODWAR
Telex:
Fax:

COUNTY COMMISSIONER
TURKANA COUNTY,
P.O BOX 1-30500,
LODWAR

14TH APRIL, 2023.

E-mail:cc.turkana@interior.go.ke

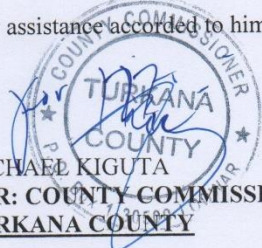
REF:TC.CONF.ED.12/VOL.IV (61)

DEPUTY COUNTY COMMISSIONER
TURKANA WEST SUB COUNTY

RE: RESEARCH AUTHORIZATION: MR. .STEPHEN JORAM ONAM OLUBULYERA
LICENCE NO: NACOSTI/P/23/23952

The above mentioned are from Moi University and has been authorized to carry out research on
"Determinants of drug uptake during Trachoma mass Drug Administration". The research
period ends on 22th March, 2024.

Any assistance accorded to him will be appreciated.


MICHAEL KIGUTA
FOR: COUNTY COMMISSIONER
TURKANA COUNTY

Copy to:
The Director of Education
TURKANA COUNTY

MR. STEPHEN JORAM ONAM OLUBULYERA

Appendix 5: Research Authorization-County Education Office



REPUBLIC OF KENYA
MINISTRY OF EDUCATION
STATE DEPARTMENT OF EARLY LEARNING AND BASIC EDUCATION

Telegram 'ELIMU', Lodwar
Telephone 'Lodwar' 054 21076
Fax/No: 054 21076
Email: cdeturkana@education.go.ke
When replying please quote
REF: TC/CONF/ED. 12/1/VOL.II/221

TURKANA COUNTY EDUCATION OFFICE,
P.O. BOX 16- 30500,
LODWAR.

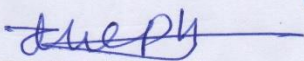
17/4/2023

RE: RESEARCH AUTHORIZATION: MR. STEPHEN JORAM ONAM OLUBULYERA
LICENSE NO: NACOSTI/P/23/23952.

This is to authorize the above named researcher to carry out research on "*Determinants of Drug Uptake during Trachoma Mass Drug Administration.*" As for the letter reference No. NACOSTI/P/23/23952 dated 22/March/2023 from the National Commission for science technology and innovation. The research period ends 22nd March, 2024.

Any assistance accorded to him will be highly appreciated.

Thanks in advance.


MR. HENRY A. LUBANGA
COUNTY DIRECTOR OF EDUCATION
TURKANA COUNTY

COUNTY DIRECTOR OF EDUCATION
TURKANA COUNTY
P. O. Box 16 - 30500,
LODWAR

CC: - The County Commissioner
Turkana County

- Director General
NACOSTI

-Sub County Commissioner
Turkana West Sub County

Appendix 6: Research Approval-Ministry of Health, Turkana County

TURKANA COUNTY GOVERNMENT



MINISTRY OF HEALTH SERVICES AND SANITATION

County Health Executive,
Turkana County,
P.O Box 11 – 30500, Lodwar

Located at the Ministry of
Housing Building – Nawoitong

When replying please quote.....

REF NO: TCG/MOH/HR/VOL 1(15)

17th April 2023

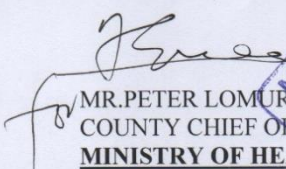
Top whom it may concern

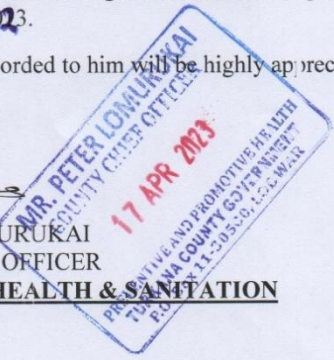
**RE: RESEARCH AUTHORIZATION FOR MR STEPHEN JORAM OLUBULYERA
(LICENSE NO: NACOSTI/P/23/23952)**

This is to confirm that the above mentioned person ID NO 24806813 who is a graduate student of Moi university has been authorized to carry out research on *Determinants of Drug Uptake During Trachoma Mass Drug Administration* as per reference letter No. NACOSTI/P/23/23952 dated 22th march 2023.

Any assistance accorded to him will be highly appreciated.

Thanks in advance


MR. PETER LOMURUKAI
COUNTY CHIEF OFFICER
MINISTRY OF HEALTH & SANITATION



CC The County Commissioner
Turkana County

Director General
NACOSTI

Deputy County Commissioner
Turkana West

Appendix 7: Research Approval-Kakuma & Kalobeyei Refugee Camps

RESTRICTED



**OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION,
STATE DEPARTMENT FOR CITIZEN SERVICES**

DEPARTMENT OF REFUGEE SERVICES (DRS) - KAKUMA

Website: www.refugees.go.ke
E-mail: refugee.affairs@kenya.go.ke
Tel: +254-020-2093675
Fax: +254-020-8047923
When replying please quote:
DRS/KKM/ADM/4/23

Kakuma Field Office
P.O. Box 57-30501
Kakuma, Kenya

20th April, 2023

TO WHOM IT MAY CONCERN

RE: AUTHORIZATION TO VISIT KAKUMA REFUGEE CAMP

Your request is here refer; -

Permission is hereby granted to the persons mentioned below. The purpose of their visit is to conduct research on "Determinant of drug Uptake during Trachoma Mass Vaccination in Turkana West subcounty, Turkana County" and in Kakuma refugee camp Kalobeyei settlement. They will be in the camp as from 20th April, to 30 May, 2023 time not exceeding 1800hrs.

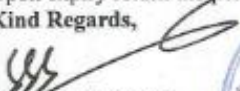
NOTE; Overstaying without official permit is an offense

S.no	NAME	ID/P/P NO	NATIONALITY
1.	WILLIAM NGIKITO LOMGUR	26909264	KENYAN
2.	LEMMY EKUWAM LOTAIPOK	36261792	KENYAN
3.	ANTHONY EKOMWA LONGOK	38081403	KENYAN
4.	PHILIPH EKIDOR ECHAMAN	37830810	KENYAN
5.	JOHN CHEGE NJUGUNA	22027922	KENYAN

They will be using M/vehicle Reg No. KBU 133P

However, you are required to adhere to the regulations of the camp during the visit.
Upon expiry return the permit to DRS.

Kind Regards,


SAMMY KOECH

D/CAMP MANAGER- KAKUMA CAMPS AND KALOBYEI SETTLEMENT

Cc: SCPC Kakuma



Appendix 8: Work Plan for the Study

Timeline	Aug-Sept 2022	Oct 2022	Nov-Dec 2022	Jan-Feb 2023	March-April 2023	May 2023	June-July 2023
Activity							
Preparation of Research Proposal							
Presentation of Research Proposal							
Preparation & Submission of Proposal to Ethics Committee							
Data Collection							
Data Analysis & Report Writing							
Submission of Thesis to University							
Presentation & Submission of Thesis							

Appendix 9: Budget

Activity	Unit	No. of days	Cost Per Unit	Amount
Plagiarism Check using Turnitin	3	-	1,500	4,500
Application to IREC-Moi University	1	-	2,000	2,000
Transport to the Study County	2	1	12,000	24,000
Transport to the Study Site	2	1	2,000	4,000
Training for five days	5	5	8,500	212,500
Conference for Training	1	5	6,000	30,000
Chiefs for Respective Villages	16	1	1,000	16,000
CDRs for Respective Village	16	1	500	8,000
Field Work for Nine Days	5	9	4,200	189,000
Vehicle Hires	1	9	10,000	90,000
Fuel for Vehicle(9 days)	140	1	150	21,000
Printing Papers(RIMs)	2	1	500	1,000
Communication, Printing, Airtime	12	1	1,000	12,000
Binding of Protocols and Reports	8	1	1,000	8,000
Field Work Expenses, Lunch, Airtime, Water	5	1	2,000	10,000
Miscellaneous-on field petty cash	1	14	1,500	21,000
Lunches SCHMT involved	5	1	2,000	10,000
Lunches for Healthcare Workers	10	1	1,000	10,000
FELTP Resident Per-Diem for 14 days	1	14	8,500	119,000
			Total	792,000



Appendix 10: Data Collection Tools Informed Consent Form



Moi University

Kenya Field Epidemiology and Training Program

Project: Determinants of Drug Uptake during Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya.

REG NO:

Date of Interview:...../...../2023

Verbal Consent to Participate in the Research

Greetings! My name is.....from the Moi University, School of Public Health, Department of Epidemiology and Medical Statistics conducting research aimed at determining drug uptake during Trachoma Mass Drug Administration in Turkana West Subcounty, Turkana County, Kenya.

Purpose of the Study

This study aims to collect information on Determinants of Drug Uptake during the Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya. You are requested to participate in this study because you have relevant information and experiences that may be significant to the study.

Confidentiality

I reassure you that all information we collect on the tablets or forms will be entered into the computer with only the unique identification number, and the information will be strictly confidential. Only people involved in this study will have access to the information for this study. We will compile a report containing responses from all research subjects involved in this study. Your name will not appear in the report or other information that will identify you or the records you provided

What Participation Involved

Suppose you consent to participate in this study. In that case, you will be required to answer a series of questions prepared for the survey through a questionnaire to

obtain the intended information regarding determinants of drug uptake during the Trachoma Mass Drug Administration in this area.

Why were you selected for this study

Your household has been randomly selected for this study since you are a resident of this study area and have information concerning Trachoma Mass Drug Administration Program that was conducted six or more months ago. The information you will provide will give insights into how to implement future Trachoma Programs.

Rights to withdraw and alternatives

Taking part in this study is entirely your choice. You won't be penalised if you choose not to respond to any question asked. You can stop participating in this study anytime, even if you have already given your consent. Refusal to participate or withdraw from the study will not involve penalty or restriction to receive drugs in future MDA rounds.

Benefits

We hope the information will provide essential data to assess the potential determinants for accepting azithromycin (trachoma) drugs during MDA. Study results will provide evidence-based decisions when planning future MDA programs.

Possible Risks

No risks involved in the study

Who to contact?

If you have questions about this study, please contact:

Stephen Olubulyera,

Phone No:0721203032

Email: stevenjoram@gmail.com

Do you agree?

Verbally agrees

☐

Verbally disagree

☐



Fomu ya Ridhaa ya Habari

Cho Kikuu Cha Moi

Programu ya Mafunzo ya Epidemiolojia Nyanjani la Kenya

Mradi: Uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma, Turkana Magharibi, Kaunti ya Turkana, Kenya.

REG NO:

Date of Interview:...../...../2023

Idhini ya Maneno Kushiriki katika Utafiti

Habari! Jina langu ni..... kutoka Chuo Kikuu cha Moi, Shule ya Afya ya Umma, Idara ya Epidemiolojia na Takwimu za Matibabu zinazofanya utafiti unaolenga kubaini utumiaji wa dawa wakati wa Misa ya Kupeana Dawa za Trachoma hapa Turkana Magharibi, Kaunti ya Turkana, Kenya. Madhumuni ya Utafiti Utafiti huu unalenga kukusanya taarifa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma, Turkana Magharibi, Kaunti ya Turkana, Kenya.

Madhumuni ya Utafiti

Utafiti huu unalenga kukusanya taarifa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma, Turkana Magharibi, Kaunti ya Turkana, Kenya. Unaombwa kushiriki katika utafiti huu kwa sababu una taarifa na uzoefu muhimu ambao unaweza kuwa muhimu kwa utafiti.

Usiri

Nakuhakikishia kuwa taarifa zote tunazokusanya kwenye vidonge au fomu zitaingizwa kwenye kompyuta zenye namba ya kipekee tu ya utambulisho, na taarifa hizo zitakuwa za siri kabisa. Ni watu tu waliohusika katika utafiti huu ndio watakaopata habari za utafiti huu. Tutakusanya ripoti yenye majibu kutoka kwa masomo yote ya utafiti yanayohusika katika utafiti huu. Jina lako halitaonekana kwenye ripoti au taarifa nyingine zitakazokutambulisha au rekodi ulizotoa.

Ushiriki gani ulihusisha

Tuseme unakubali kushiriki katika utafiti huu. Katika hali hiyo, utatakiwa kujibu mfululizo wa maswali yaliyoandaliwa kwa ajili ya utafiti kupitia dodoso ili kupata

taarifa zilizokusudiwa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma katika hili eneo.

Kwa nini ulichaguliwa kwa utafiti huu

Kaya yako imechaguliwa bila mpangilio kwa utafiti huu kwani wewe ni mkazi wa eneo hili la utafiti na una habari kuhusu Mpango wa Utawala wa Dawa ya Trachoma ambayo ilifanywa mwezi sita au zaidi uliopita. Habari ambayo utatoa itatoa ufahamu juu ya jinsi ya kutekeleza Mipango ya Trachoma ya baadaye

Haki za kujiondoa na njia mbadala

Kushiriki katika utafiti huu ni chaguo lako kabisa. Hutaadhibiwa ikiwa utachagua kutojibu swali lolote lililoulizwa. Unaweza kuacha kushiriki katika utafiti huu wakati wowote, hata kama tayari umetoa idhini yako. Kukataa kushiriki au kujiondoa katika utafiti hakutahusisha adhabu au kizuizi cha kupokea dawa katika raundi zijazo za MDA.

Faida

Tunatarajia habari hiyo itatoa data muhimu ili kutathmini vigezo vinavyoweza kukubali dawa za azithromycin (trachoma) wakati wa MDA. Matokeo ya utafiti yatatoa maamuzi ya msingi ya ushahidi wakati wa kupanga mipango ya baadaye ya MDA.

Hatari zinazowezekana

Hakuna hatari yoyote inayohusika katika utafiti

Nani wa kuwasiliana naye?

Ikiwa una maswali kuhusu utafiti huu, tafadhali wasiliana na:

Stephen Olubulyera,

Simu ya Rununu: 0721203032

Barua Pepe: stevenjoram@gmail.com

Wakubali kushiriki kwenye utafiti?

Mshiriki Amekubali ☐

Mshiriki Amekataa ☐

REPUBLIC OF KENYA



MINISTRY OF HEALTH

Semi-Structured Questionnaire Moi University



Kenya Field Epidemiology and Training Program

Project: Determinants of drug uptake during Trachoma "Lokir" Mass Drug Administration in Turkana West, Turkana County, Kenya.

Community Questionnaire

Name of Interviewee..... Date of Interview:...../...../20.....

Questionnaire No.....

Name of Interviewer.....

County.....Subcounty.....

Ward.....

Introduction

Village.....

Thank you for accepting to participate by answering these questions about determinants of drug uptake for Trachoma. This questionnaire will take 15-20 minutes and focus on Trachoma "Lokir" preventive chemotherapy in your household and the factors influencing drug uptake during Mass Drug Administration. Please feel free to seek clarification if there is anything you need help understanding. Your responses in this interview are confidential, and your name will not be linked to it; only numbers are used.

a) Introduction

Item	Questions	Response	Skip
1.	County name		
2.	Subcounty name		
3.	Ward name		
4.	Cluster name		
5.	Interviewing team number		
6.	Interviewer name		
7.	Date of interview		
8.	Start time of interview		
9.	GPS Co-ordinate/ Latitude		
10.	GPS Co-ordinate/Longitude		
11.	Household ID		
12.	Number of individuals eligible for Trachoma Mass Drug Administration (6 months and above) in the Household		
13.	Number of those who took the Azithromycin		

b) Sociodemographic Characteristics

1) Gender.....

2) Age.....

3) Employment Status

- a) Self-Employed()
- b) Public Servant()
- c) Unemployed()
- d) Private Sector Employee()

e)Business()

f)Farmer()

g) Others_____

4) Education Level

- a) None()
- b) Primary Education()
- c) Secondary Education()
- d) College/University Education()

6) Occupation

- a) Student()
- b) Peasant()
- c) Healthcare Worker()
- d) Business man/woman()
- e) Teacher()
- f) Extension Worker()
- g) Other_____

5) Marital Status

- a) Single()
- b) Married()
- c) Cohabiting()
- d) Divorced()
- e) Widow()

7) Location of the village

- a) Urban()
- b) Rural()

8) Length of Stay in the village

- a) Less than a year()
- b) One year()
- c) Two years and above()

9) Type of Village(If settled, skip to question 11)

- a) Settled ()
- b) Nomadic ()
- c) Semi-nomadic()

10) If nomadic, the village frequently migrates to which cross-border countries or counties?

- a) Ethiopia()
- b) Sudan()
- c) Uganda()

- a) Marsabit County()
- b) Samburu County()
- c) West Pokot County()

a) Community Factors influencing drug uptake during Trachoma“Lokir” MDA

11) Have you ever heard of the disease called Trachoma? Yes() No()

If the answer is Yes, proceed to the next question; if it's No, skip to question 18

12) What are the signs/symptoms of Trachoma“Lokir” ?

- a) Severe itching of the eyes()
- b) Headaches()
- c) Redness of the eyes()
- d) Others(specify)_____

13) What are the effects of Trachoma“Lokir” Disease on the affected person?

- a) Blindness()
- b) Visual Impairments()
- c) Others(Specify)_____

14) How is the Trachoma“Lokir” disease transmitted?

- a) Through Flies()
- b) Unhygienic Practices()
- c) Poor Environmental Sanitation()
- d) Others(specify)_____

15) Do you know that Trachoma“Lokir” can be prevented and controlled through mass drug administration? Yes() No()

16) Which other ways do you think Trachoma“Lokir” can be prevented or controlled?

- a) Face Cleanliness()
- b) Personal Hygiene()
- c) Environmental Sanitation()
- d) Others_____

17) How often are the drugs to treat or prevent transmission of Trachoma“Lokir” given?

- a) After every six months()
- b) Once a year()
- c) Every two years()
- d) I don't know()

18) Have you ever taken drugs during Mass Drug Administration to treat or prevent transmission of Trachoma“Lokir” ? Yes() No()

If YES, go to the next question; NO, skip to question 21

19) How many times in the past five annual Mass drug Administration (five years)?

- a) I have taken it once()
- b) I have taken it twice()
- c) I have taken it several times()
- d) I do not remember how many times I have taken the drugs for Trachoma()

20) What reasons influenced your decision to accept and swallow the drug?

- a) Sensitization by Community Drug Distributor()
- b) Influence from a friend or family member()
- c) Sensitization from Healthcare Workers()
- d) My own volition, realised importance()
- e) Others_____

21) If No, why have you NEVER taken the drugs to treat or prevent transmission of Trachoma“Lokir” ? (This is an open-ended question: do not read the responses for the respondent)

- a) Absent from Home during distribution()
- b) Migrated with the village members()
- c) The Distribution team has never reached this village()
- d) Pregnant at the time()
- e) Fear of Side Effects()
- f) Not approached for MDA()
- g) Refused Completely()
- h) Others_____

22) Where in this community are the drugs usually distributed?

- a) Compound/centre/community meeting place()
- b) Compound of the community drug distributor()
- c) Church/mosque/school()
- d) The drugs were brought to my house()
- e) Compound of the village leader()
- f) I don't know()

23) Did you take or swallow the drug during the last Mass drug administration?

Yes() No()

If No, proceed to the next question; yes, skip to question 25

24) If No, which of the following reasons influenced your decision to refrain from taking and swallowing the drug? (This is an open ended question: do not read the responses for the respondent)

- a) I was absent during the distribution of the drugs()
- b) Rumor that the drugs cause infertility made me refrain from taking the drugs()

- c) Rumors that they want to depopulate us made me refrain from the drugs()
- d) The fact that I had once taken them, I didn't see the need()
- e) Others specify_____

25) Do you consider taking the drugs to control signs and symptoms of Trachoma“Lokir” , like itching and redness of the eye? Yes() No()

26) Have you ever had any adverse effects after taking trachoma“Lokir” drugs during Mass Drug Administration? Yes() No()

If yes, proceed with the following question; no, skip to question 29

27) What was your adverse side effect after swallowing the trachoma“Lokir” drugs during MDA(choose what applies)?

- a) Vomiting()
- b) Stomach Ache()
- c) Diarrhea()
- d) Others specify_____

28) Has your experience influenced your decision to participate in the next MDA and swallow the drugs?

Yes() No ()

29) Have you ever heard of any adverse effects of trachoma“Lokir” drugs during MDA? Yes() No()

If yes, proceed with the following question; no, skip to question 31

30) Has this information influenced your decision to participate in the next MDA and swallow the drugs?

Yes() No ()

31) Do you know anybody who suffered from trachoma disease and recovered after taking the distributed drugs? Yes() No()

If yes, proceed with the following question; no, skip to question 33

32) Did the person's recovery influence your decision about swallowing the drug?

Yes() No ()

b) Program Factors influencing drug uptake during Trachoma“Lokir” MDA

33) Did you ever receive information about Trachoma“Lokir” Disease before or during Mass Drug Administration?

Yes() No()

If Yes, proceed with the following question; NO, skip to question 35

34) From which source did you get the information about Trachoma“Lokir” Disease?

- a) Healthcare Worker()
- b) Teacher()
- c) Chief()
- d) Community Leader()
- e) Community Health Volunteer(CHV) ()
- f) Community Drug Distributor()
- g) Radio/TV()
- h) Public Address System()
- i) Others specify_____

35) Were any posters or leaflets shared on Trachoma“Lokir” during the Mass Drug Administration?

Yes() No()

36) Have you ever attended health education session(s) given in your community on Trachoma? Yes() No()

If Yes, proceed with the following question; NO, skip to question 41

37) What did the education session cover?

- a) It was only on Trachoma“Lokir” Disease()
- b) It was on personal hygiene and Trachoma“Lokir” ()
- c) It covered general environmental cleanliness but not Trachoma“Lokir” ()
- d) It was not about Trachoma“Lokir” but something else()

38) Where was the health education session held?

- a) Chief's Baraza()
- b) Health Facility()
- c) School()
- d) At Household Level()
- e) At the Market Place()
- f) Others specify_____

39) Did the health education session you attended enlighten you on the importance of swallowing the drugs? Yes() No()

If Yes, proceed with the following question; NO, skip to question 41

40) What is the benefit of swallowing the drug? (choose all that apply)

- a) The drug prevents one from getting the disease()
- b) The drug treats the ones with the disease()
- c) The drug does both, treats and prevents the disease()
- d) I do not know what the drug does()

41) Please could you tell me HOW the drugs are distributed to the community members during Trachoma“Lokir” Mass Drug Administration (choose what apply)

- a) House to house()
- b) A place in the village()
- c) Health facility()
- d) I don't know()
- e) Others(specify)_____

42) Were you advised on any anticipated mild or adverse side effects of the Trachoma“Lokir” drugs by the Community Drug Distributor during the Mass Drug Administration? Yes() No()

43) According to you, is the process long or tedious: taking measurements, administering and swallowing Trachoma“Lokir” drugs during MDA? Yes() No()

Thank you for your time and participation

REPUBLIC OF KENYA



MINISTRY OF HEALTH



Dodoso Nusu-Muundo Cho Kikuu Cha Moi

Programu ya Mafunzo ya Epidemiolojia Nyanjani la Kenya

Mradi: Uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za
Trachoma "Lokir" , Turkana Magharibi, Kaunti ya Turkana, Kenya.

Dodoso la Jamii

Nambari ya Dodoso.....

Kata.....

Tarahe ya Mahojiano:...../...../.....

Kaunti.....Kaunti Ndogo.....

Kijiji.....

Jina la Mhojiwa.....

Utangulizi

Jina la Mhojiwa.....

Asante kwa kukubali kushiriki kwa kujibu maswali haya kuhusu uamuzi wa utumiaji wa dawa kwa Trachoma. Dodoso hili litachukua dakika 15-20 na kuzingatia tiba ya kuzuia "Lokir" katika kaya yako na mambo yanayoathiri utumiaji wa madawa ya trachoma wakati wa Utawala wa Dawa za Misa. Tafadhali jisikie huru kutafuta ufafanuzi ikiwa kuna chochote unachohitaji kuelewa msaada. Majibu yako katika mahojiano haya ni siri, na jina lako halitaunganishwa nalo; namba pekee ndizo zinazotumika.

a) Utangulizi

Kipengee	Maswali	Majibu	Ruka
1.	Jina la kata		
2.	Jina la kaunti ndogo		
3.	Jina la kata		
4.	Jina la kikundi		
5.	Nambari ya timu ya mahojiano		
6.	Jina la mhojiwa		
7.	Tarehe ya mahojiano		
8.	Wakati wa kuanza kwa mahojiano		
9.	GPS Co-ordinate/ Latitudo		
10.	GPS Co-ordinate/Longitudo		
11.	Kitambulisho cha Kaya		
12.	Idadi ya watu wanaostahiki Utawala wa Madawa ya Trakoma (miezi 6 hadi zaidi) katika Kaya.		
13.	Idadi ya wale waliochukua Azithromycin		

b) Tabia za Jamii

1) Jinsia.....

3) Hali ya Ajira

- a) Kijiajiri()
- b) Mtumishi wa Umma()
- c) Hana Kazi()
- d) Mfanyikazi wa Sekta ya Binafsi()
- e) Biashara()
- f) Mkulima()
- g) Ingingine_____

5) Hali ya Ndoa

- a) Hajaolewa()
- b) Ameolewa/Ameoa()
- c) Wanaishi pamoja()
- d) Talaka()
- e) Mjane()

7) Eneo la Kijiji

- a) Mjini()
- b) Vijijini()

8) Urefu ya Kukaa kijijini

- d) Chini ya Mwaka Mmoja()
- e) Mwaka Mmoja()
- f) Mwaka miwili na zaidi()

9) Aina ya Kijini(Ikiwa ya Makazi, ruka wa swali 11)

- d) Makazi ()
- e) Kuhama hama ()
- f) Nusu-kuhamahama

10) Ikiwa kuhamahama, kijiji mara nyingi huhamia nchi au kaunit zipi za mpakani?

- d) Ethiopia()
- e) Sudan()
- f) Uganda()

2) Mri.....

4) Ngazi ya Elimu

- a) Sijasoma()
- b) Elimu ya Msingi()
- c) Elimu ya Sekondari ()
- d) Elimu ya Chuo/Chuo Kikuu()

6) Kazi

- a) Mwanafunzi()
- b) Mkulima()
- c) Mhudumu wa Afya()
- d) Mwanabiashara()
- e) Mwalimu()
- f) Mfanyikazi wa Ugani()
- g) Ingingine_____

Marsabit County()

Samburu County()

c) Sababu za jamii zinazoathiri utumiaji wa dawa wakari wa Misa ya kupeana dawa za “Lokir”

11) Umewahi kusikia ugonjwa unaoitwa “Lokir” ? Ndiyo () Hapana()

Kama jibu ni Ndiyo, endelea na swali linalofuata; ikiwa ni Hapana, ruka kwa swali la 18

12) Ni ishara/dalili gani za “Lokir” ?

e) Muwasho mkali wa macho ()

f) Maumivu ya kichwa ()

g) Wekundu wa macho ()

h) Wengine(taja)_____

13) Je, ni athari gani za ugonjwa wa “Lokir” kwa mtu aliyeathirika?

d) Upofu ()

e) Uharibifu wa Kuona ()

f) Wengine(Taja)_____

14) Ugonjwa wa “Lokir” unaambukizwa vipi?

e) Kupitia Nzi()

f) Mazoea yasiyo safi ()

g) Usafi duni wa Mazingira ()

h) Wengine(taja) _____

15) Je, unafahamu kuwa “Lokir” inaweza kuzuiwa na kudhibitiwa kupitia misa ya kupeana dawa? Ndiyo() Hapana()

16) Unadhani Trachoma inaweza kuzuiwa au kudhibitiwa njia nyingine?

e) Usafi wa Uso ()

f) Usafi binafsi ()

g) Usafi wa Mazingira ()

h) Mengine_____

17) Ni mara ngapi dawa za kutibu au kuzuia maambukizi ya “Lokir” zinatolewa?

e) Baada ya kila baada ya miezi sita()

f) Mara moja kwa mwaka ()

g) Kila baada ya miaka miwili ()

h) Sijui()

18) Je, umewahi kutumia dawa wakati wa Misa ya peana dawa za kutibu au kuzuia maambukizi ya Trachoma? Ndiyo() Hapana()

Ikiwa NDIYO, nenda kwenye swali linalofuata; HAPANA, ruka kwa swali la 21

19) Ni mara ngapi umepokea na kutumia dawa wakati wa Misa ya Kupeana Dawa za “Lokir” (miaka mitano iliyopita)?

e) Nimeichukua mara moja()

f) Nimeichukua mara mbili ()

g) Nimeichukua mara kadhaa ()

- h) Sikumbuki ni mara ngapi nimetumia dawa za Trachoma ()
- 20) Ni sababu zipi zilizoathiri uamuzi wako wa kukubali na kumeza dawa?**
- f) Uhamasishaji unaofanywa na Msambazaji wa Dawa za Jamii ()
- g) Ushawishi kutoka kwa rafiki au mwanafamilia ()
- h) Uhamasishaji kutoka kwa Watumishi wa Afya ()
- i) Hiari yangu mwenyewe, kutambua umuhimu ()
- j) Mengine_____
- 21) Kama Hapana, kwa nini hujawahi kutumia dawa za kutibu au kuzuia maambukizi ya Trachoma? (Hili ni swali la wazi lililoisha: usisome majibu kwa mhojiwa)**
- i) Kutokuwepo Nyumbani wakati wa usambazaji ()
- j) Kuhama na wajumbe wa kijiji ()
- k) Timu ya Usambazaji haijawahi kufika kijiji hiki ()
- l) Mjamzito wakati huo ()
- m) Hofu ya Madhara ()
- n) Sikushirikiswa wakati wa MDA ()
- o) Kukataliwa kabisa ()
- p) Mengine_____
- 22) Ni wapi katika jamii hii dawa hizo husambazwa kwa kawaida?**
- g) Kiwanja/kituo/mahali pa mikutano ya jamii ()
- h) Kiwanja cha msambazaji wa dawa za jamii ()
- i) Kanisa ()
- j) Msikiti ()
- k) Shule ()
- l) Dawa hizo zililetwa nyumbani kwangu ()
- m) Kiwanja cha kiongozi wa kijiji ()
- n) Sijui ()
- 23) Je, ulichukua na kumeza dawa wakati wa utawala wa mwisho wa misa ya kupeana dawa? Ndiyo () Hapana ()**
- Kama Hapana, endelea na swali linalofuata; Ndio, ruka kwa swali la 25***
- 24) Kama Hapana, ni sababu zipi kati ya zifuatazo zilizoathiri uamuzi wako wa kujizuia kutumia na kumeza dawa? (Hili ni swali la wazi lililoisha: usisome majibu kwa mhojiwa)**
- f) Nilikuwa sipo wakati wa usambazaji wa dawa ()
- g) Uvumi kwamba dawa hizo husababisha utasa ulinifanya nijizuie kutumia dawa hizo ()
- h) Uvumi kwamba wanataka kutupunguza ulinifanya nijiepushe na dawa ()
- i) Ukweli kwamba niliwahi chukua, sikuona haja ()
- j) Mengine_____

- 25) Je, unafikiria kutumia dawa hizo ili kudhibiti ishara na dalili za “Lokir” , kama muwasho na wekundu wa jicho? Ndiyo() Hapana()
- 26) Je, umewahi kupata madhara yoyote mabaya baada ya kutumia dawa za “Lokir” wakati wa Misa wa Kupeana Dawa za “Lokir” ? Ndiyo() Hapana()

Kama ndiyo, endelea na swali lifuatalo; hapana, ruka kwa swali la 29

- 27) Nini athari yako mbaya baada ya kumeza dawa za “Lokir” wakati wa MDA (chagua)?
- e) Kutapika()
 - f) Kuumwa na tumbo()
 - g) Kuharisha()
 - h) Mengine taja_____
- 28) Je, uzoefu wako umeathiri uamuzi wako wa kushiriki katika MDA ijayo na kumeza dawa? Ndiyo() Hapana()
- 29) Je, umewahi kusikia athari zozote mbaya za dawa za “Lokir” wakati wa MDA? Ndiyo() Hapana()

Kama ndiyo, endelea na swali lifuatalo; Hapana, ruka kwa swali la 31

- 30) Je, taarifa hii imeathiri uamuzi wako wa kushiriki katika MDA ijayo na kumeza dawa? Ndiyo() Hapana()
- 31) Unamfahamu mtu yeyote aliyeugua ugonjwa wa “Lokir” na kupona baada ya kutumia dawa zilizosambazwa? Ndiyo() Hapana()

Kama ndiyo, endelea na swali lifuatalo; Hapana, ruka kwa swali la 33

- 32) Je, kupona kwa mtu huyo kuliathiri uamuzi wako kuhusu kumeza dawa? Ndiyo() Hapana()
- d) Mambo ya Programu yanayoathiri utumiaji wa madawa wakati wa Trachoma “Lokir” MDA
- 33) Je, Uliwahi kupokea taarifa kuhusu ugonjwa wa Trachoma “Lokir” kabla wakati wa Utawala wa Dawa za Misa? Ndiyo() Hapana()

Ikiwa Ndiyo, endelea na swali lifuatalo; HAPANA, ruka kwa swali la 35

34) Je, ni chanzo gani ulipata taarifa kuhusu ugonjwa wa “Lokir” ?

- j) Mhudumu wa Afya ()
- k) Mwalimu ()
- l) Chifu ()
- m) Kiongozi wa Jamii ()
- n) Community Health Volunteer(CHV) ()
- o) Msambazaji wa Dawa za Jamii ()
- p) Redio/TV ()
- q) Mfumo wa Anwani za Umma ()
- r) Wengine(taja)_____

35) Je, mabango au vipeperushi vyovyote vilisambazwa kwenye “Lokir” wakati wa Utawala wa Dawa za Misa? Ndiyo() Hapana()

36) Je, umewahi kuhudhuria kikao cha elimu ya afya kilichotolewa katika jamii yako juu ya “Lokir” ? Ndiyo() Hapana()

Ikiwa Ndiyo, endelea na swali lifuatalo; HAPANA, ruka kwa swali la 41

37) Kikao cha elimu kilihusu nini?

- e) Ilikuwa tu kwenye Ugonjwa wa “Lokir” ()
- f) Ilikuwa juu ya usafi binafsi na “Lokir” ()
- g) Ilishughulikia usafi wa jumla wa mazingira lakini sio Trachoma()
- h) Haikuwa kuhusu “Lokir” bali kitu kingine ()

38) Kikao cha elimu ya afya kilifanyika wapi?

- g) Baraza ya Chifu ()
- h) Kituo cha Afya ()
- i) Shule ()
- j) Nyumbani()
- k) Mahali pa Soko ()
- l) Pengine(taja)_____

39) Je, kikao cha elimu ya afya ulichohudhuria kilikupa nuru juu ya umuhimu wa kumeza dawa hizo? Ndiyo() Hapana()

Ikiwa Ndiyo, endelea na swali lifuatalo; HAPANA, ruka kwa swali la 41

40) Nini faida ya kumeza dawa? (chagua yote yanayotumika)

- e) Dawa humzuia mtu kupata ugonjwa huo ()
- f) Dawa huwatibu wenye ugonjwa huo ()
- g) Dawa hufanya yote mawili, hutibu na kuzuia ugonjwa ()
- h) Sijui dawa inafanya nini ()

41) Tafadhali unaweza kuniambia jinsi dawa hizo zinavyosambazwa kwa wanajamii wakati wa “Lokir” MDA? (chagua kinachotumika)

- f) Nyumba kwa nyumba()
- g) Sehemu katika kijiji()
- h) Kituo cha Afya ()

- i) Sijui ()
- j) Pengine(taja)_____

42) Je, ulishauriwa juu ya madhara yoyote madogo au mabaya ya dawa za Trachoma na Msambazaji wa Dawa za Jamii wakati wa Misa ya Kupeana Dawa? Ndiyo() Hapana()

43) Kulingana na wewe, mchakato huo ni mrefu au wa kuchosha: kuchukua vipimo, kusimamia na kumeza dawa za “Lokir” wakati wa MDA? Ndiyo() Hapana()

Asante kwa muda na ushiriki wako

REPUBLIC OF KENYA



MINISTRY OF HEALTH

Informed Consent Form

Moi University



Kenya Field Epidemiology and Training Program

Project: Determinants of Drug Uptake during Trachoma“Lokir” Mass Drug Administration in Turkana West, Turkana County, Kenya.

REG NO:

Date of Interview:...../...../2023

Consent to Participate in the Research: Community Drug Distributor

Greetings! My name is.....from the Moi University, School of Public Health, Department of Epidemiology and Medical Statistics conducting research aimed at determining drug uptake during Trachoma“Lokir” Mass Drug Administration in Turkana West Subcounty, Turkana County, Kenya.

Purpose of the Study

This study aims to collect information on Determinants of Drug Uptake during the Trachoma“Lokir” Mass Drug Administration in Turkana West, Turkana County, Kenya. You are requested to participate in this study because you have relevant information and experiences that may be significant to the study.

Confidentiality

I reassure you that all information we collect on the tablets or forms will be entered into the computer with only the unique identification number, and the information will be strictly confidential. Only people involved in this study will have access to the information for this study. We will compile a report containing responses from all research subjects involved in this study. Your name will not appear in the report or other information that will identify you or the records you provided

What Participation Involved

Suppose you consent to participate in this study. In that case, you will be required to answer a series of questions prepared for the survey through a questionnaire to

obtain the intended information regarding determinants of drug uptake during the Trachoma“Lokir” Mass Drug Administration in this area.

Why have you been selected

Your village has been randomly selected for this study since you have been in charge of this village on drug distribution during Trachoma Programs and have information concerning Trachoma Mass Drug Administration Program that was conducted six or more months ago. The information that you will provide will give insights into how the implement future Trachoma Programs

Rights to withdraw and alternatives

Taking part in this study is entirely your choice. You won't be penalised if you choose not to respond to any question asked. You can stop participating in this study anytime, even if you have already given your consent. Refusal to participate or withdraw from the study will not involve penalty or restriction to receive drugs in future MDA rounds.

Benefits

We hope the information will provide essential data to assess the potential determinants for accepting azithromycin (trachoma) drugs during MDA. Study results will provide evidence-based decisions when planning future MDA programs.

Possible Risks

Breach of confidentiality or privacy. There are mechanisms to deter or prevent this from occurring through anonymization of the confidential information provided during the in-depth interview.

Who to contact?

If you have questions about this study, please contact:

Stephen Olubulyera,

Phone No:0721203032

Email: stevenjoram@gmail.com

Do you agree?

Verbally agrees ☐

Verbally disagree ☐



Fomu ya Ridhaa ya Habari Cho Kikuu Cha Moi

Programu ya Mafunzo ya Epidemiolojia Nyanjani la Kenya

Mradi: Uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma“Lokir”, Turkana Magharibi, Kaunti ya Turkana, Kenya.

REG NO:

Date of Interview:...../...../2023

Idhini ya Maneno Kushiriki katika Utafiti: Msambazaji wa Dawa za Jamii

Habari! Jina langu ni..... kutoka Chuo Kikuu cha Moi, Shule ya Afya ya Umma, Idara ya Epidemiolojia na Takwimu za Matibabu zinazofanya utafiti unaolenga kubaini utumiaji wa dawa wakati wa Misa ya Kupeana Dawa za Trachoma hapa Turkana Magharibi, Kaunti ya Turkana, Kenya. Madhumuni ya Utafiti Utafiti huu unalenga kukusanya taarifa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma“Lokir”, Turkana Magharibi, Kaunti ya Turkana, Kenya.

Madhumuni ya Utafiti

Utafiti huu unalenga kukusanya taarifa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma“Lokir”, Turkana Magharibi, Kaunti ya Turkana, Kenya. Unaombwa kushiriki katika utafiti huu kwa sababu una taarifa na uzoefu muhimu ambao unaweza kuwa muhimu kwa utafiti.

Usiri

Nakuhakikishia kuwa taarifa zote tunazokusanya kwenye vidonge au fomu zitaingizwa kwenye kompyuta zenye namba ya kipekee tu ya utambulisho, na taarifa hizo zitakuwa za siri kabisa. Ni watu tu waliohusika katika utafiti huu ndio watakaopata habari za utafiti huu. Tutakusanya ripoti yenye majibu kutoka kwa masomo yote ya utafiti yanayohusika katika utafiti huu. Jina lako halitaonekana kwenye ripoti au taarifa nyingine zitakazokutambulisha au rekodi ulizotoa.

Ushiriki gani ulihusisha

Tuseme unakubali kushiriki katika utafiti huu. Katika hali hiyo, utatakiwa kujibu mfululizo wa maswali yaliyoandaliwa kwa ajili ya utafiti kupitia dodoso ili kupata

taarifa zilizokusudiwa kuhusu uamuzi wa utumiaji wa dawa wakati wa Misa ya Kupeana dawa za Trachoma katika hili eneo.

Kwa nini umechaguliwa

Kijiji chako kimechaguliwa bila mpangilio kwa ajili ya utafiti huu tangu ulipokuwa msimamizi wa kijiji hiki juu ya masuala ya usambazaji wa dawa wakati wa Programu za Trachoma na kuwa na taarifa kuhusu Mpango wa Usimamizi wa Dawa za Trachoma ambao ulifanyika mwezi sita au zaidi uliopita. Habari ambayo utatoa itatoa ufahamu juu ya jinsi ya kutekeleza Mipango ya Trachoma ya baadaye.

Haki za kujiondoa na njia mbadala

Kushiriki katika utafiti huu ni chaguo lako kabisa. Hutaadhibiwa ikiwa utachagua kutojibu swali lolote lililoulizwa. Unaweza kuacha kushiriki katika utafiti huu wakati wowote, hata kama tayari umetoa idhini yako. Kukataa kushiriki au kujiondoa katika utafiti hakutahusisha adhabu au kizuizi cha kupokea dawa katika raundi zijazo za MDA.

Faida

Tunatarajia habari hiyo itatoa data muhimu ili kutathmini vigezo vinavyoweza kukubali dawa za azithromycin (trachoma) wakati wa MDA. Matokeo ya utafiti yatatoa maamuzi ya msingi ya ushahidi wakati wa kupanga mipango ya baadaye ya MDA.

Hatari zinazoweza kina

Uvunjaji wa siri au faragha. Kuna utaratibu uliowekwa wa kuzuia na kuzuia hili lisitokee kwa njia ya kutokujulikana kwa taarifa za siri zinazotolewa wakati wa kina.

Nani wa kuwasiliana naye?

Ikiwa una maswali kuhusu utafiti huu, tafadhali wasiliana na:

Stephen Olubulyera,

Simu ya Rununu: 0721203032

Barua Pepe: stevenjoram@gmail.com

Wakubali kushiriki kwenye utafiti?

Mshiriki Amekubali ☐

Mshiriki Amekataa ☐

In-depth Interview Moi University

Kenya Field Epidemiology and Training Program

Project: Determinants of drug uptake during Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya.

Questionnaire No..... Ward.....

Date of Interview:...../...../2023

County.....Subcounty.....Village.....

Interviewee.....

Name of

Introduction

Interviewer.....

Welcome, and thank you for accepting to participate in this interview about determinants of drug uptake for Trachoma. This session will take about forty minutes and focus on Trachoma preventive chemotherapy at the community level and the factors influencing drug uptake during Mass Drug Administration for Trachoma "Lokir". You are encouraged to state your opinions and to seek clarification throughout the discussion. There are no right or wrong answers; therefore, you are encouraged to share any information on the Trachoma "Lokir" Program by answering questions that will improve your work and the community's health. The interview will be recorded to capture all your opinions and responses. Your responses in this interview are confidential, and your name will not be linked to the responses; only numbers are used.

Community Drug Distributor

Capacity

- 1) Do you understand the Trachoma "Lokir" Disease and the Mass Drug Distribution Program on Trachoma?
- 2) Were you selected to participate in the Trachoma "Lokir" MDA based on your knowledge of Trachoma "Lokir"? How were you chosen to participate in the Mass Drug Administration for Trachoma "Lokir"?
- 3) How long have you served as a Community Health Volunteer?
- 4) Were you trained on how to implement the Mass Drug Administration for Trachoma "Lokir"? How many days? What did the training entail?
- 5) What do you think of the quality of training? Was the training you received adequate to perform your role and responsibilities without difficulties?
- 6) Did you get any technical support from the Subcounty and county during the implementation of the Trachoma "Lokir" Mass Drug Administration? Vehicles?

Convincing Power

- 7) Do you believe the drugs distributed to the community level during Trachoma Mass Drug Administration prevent transmission of Trachoma "Lokir"? Do the community members easily accept the drugs during Trachoma "Lokir" Mass Drug Administration?
- 8) How do you convince the community member to take and swallow drugs during Trachoma "Lokir" Mass Drug Administration?

9) What should be done to improve drug distribution activities during MDAs?

Compliance

10) What do you think could be the reason(s) why some community members refrain from taking and swallowing the drugs for Trachoma “Lokir”?

11) Did you at any point administer and directly observe the community member swallow drugs during Trachoma “Lokir” Mass Drug Administration?

Motivation

12) What kind of incentives was given for your participation in the Trachoma “Lokir” Mass Drug Administration? Money? Non-monetary benefits?

13) Do you feel the incentive was sufficient?

Thank you for your time and participation

The target for the In-depth Interview

a) Community Drug Distributor

REPUBLIC OF KENYA



MINISTRY OF HEALTH



Mahojiano ya Kina Cho Kikuu Cha Moi

Programu ya Mafunzo ya Epidemiolojia Nyanjani la Kenya

Mradi: Uamuzi wa utumiaji wa dawa wakati wa Misa ya Usambaji wa Dawa za Trachoma "Lokir", Turkana Magharibi, Kaunti ya Turkana, Kenya

Nambari ya Dodoso..... Kata..... Tarahe ya Mahojiano:...../...../2023
 Kaunti.....Kaunti Ndogo..... Kijiji.....
 County.....Subcounty..... ina la Mhojiwa.....

Utangulizi

Karibu, na asante kwa kukubali kushiriki katika mahojiano haya juu ya uamuzi wa utumiaji wa dawa za *Lokir*. Kikao hiki kitachukua takriban dakika arobaini na kuzingatia tiba ya kuzuia *Lokir* katika ngazi ya jamii na mambo yanayoathiri utumiaji wa dawa wakati wa Utawala wa Dawa ya Misa ya Usambaji wa Dawa za Lokir. Unahimizwa kueleza maoni yako na kutafuta ufafanuzi wakati wote wa mjadala. Hakuna majibu sahihi au mabaya; kwa hivyo, unahimizwa kushiriki habari yoyote juu ya Mpango wa Lokir kwa kujibu maswali ambayo yataboresha kazi yako na afya ya jamii. Mahojiano yatarekodiwa ili kunasa maoni na majibu yako yote. Majibu yako katika mahojiano haya ni siri, na jina lako halitaunganishwa na majibu; namba pekee ndizo zinazotumika.

Msambazaji wa Dawa kwa Jamii

Uwezo

- 1) Je, unaelewa Ugonjwa wa Lokir na Mpango wa Usambazaji wa Dawa nyakati za Misa za Lokir?
- 2) Je, ulichaguliwa kushiriki katika Lokir MDA kulingana na ujuzi wako wa Lokir? Ulichaguliwaje kushiriki katika Misa ya Dawa za Lokir?
- 3) Umehudumu kama Mfanyakazi wa Kujitolea wa Afya ya Jamii kwa muda gani?
- 4) Je, ulifundishwa jinsi ya kutekeleza Misa ya Dawa za Lokir? Siku ngapi? Mafunzo hayo yalihusu nini?
- 5) Una maoni gani juu ya ubora wa mafunzo? Je, mafunzo uliyoyapata yalitoshwa kutekeleza majukumu yako bila matatizo?
- 6) Je, ulipata msaada wowote wa kiufundi kutoka kaunti ndogo na kaunti wakati wa utekelezaji wa misa ya Dawa ya Lokir? Magari?

Nguvu ya kushawishi

- 7) Je, unaamini dawa zinazosambazwa katika ngazi ya jamii wakati wa Misa ya Dawa za Lokir zinazuia maambukizi ya Lokir? Je, wanajamii wanakubali kwa urahisi dawa hizo wakati wa Misa ya Dawa za Trachoma?
- 8) Unamshawishije mwanajamii kuchukua na kumeza dawa wakati wa Misa ya Dawa za Lokir?

- 9) Nini kifanyike kuboresha shughuli za usambazaji wa dawa wakati wa Misa ya Dawa za Lokir??

Kufuata

- 10) Unadhani inaweza kuwa sababu gani (s) kwa nini baadhi ya wanajamii wanajizuia kuchukua na kumeza dawa za Lokir?
 11) Je, wakati wowote ulisimamia na kuona moja kwa moja mwanajamii akimeza dawa wakati wa Misa ya Dawa za Lokir??

Motisha

- 12) Ni aina gani ya motisha iliyotolewa kwa ushiriki wako katika Misa ya Dawa za Lokir? Fedha? Faida zisizo za kifedha?
 13) Unahisi motisha ilikuwa ya kutosha?

Asante kwa muda na ushiriki wako

Lengo la Mahojiano ya Kina

a) Msambazaji wa Dawa kwa Jamii



Informed Consent Form

Moi University



Kenya Field Epidemiology and Training Program

Project: Determinants of Drug Uptake during Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya.

REG NO:

Date of Interview:...../...../2023

Consent to Participate in the Research: Key-Informant Interview

Greetings! My name is.....from the Moi University, School of Public Health, Department of Epidemiology and Medical Statistics conducting research aimed at determining drug uptake during Trachoma Mass Drug Administration in Turkana West Subcounty, Turkana County, Kenya.

Purpose of the Study

This study aims to collect information on Determinants of Drug Uptake during the Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya. You are requested to participate in this study because you have relevant information and experiences that may be significant to the study.

Confidentiality

I reassure you that all information we collect on the tablets or forms will be entered into the computer with only the unique identification number, and the information will be strictly confidential. Only people involved in this study will have access to the information for this study. We will compile a report containing responses from all research subjects involved in this study. Your name will not appear in the report or other information that will identify you or the records you provided

What Participation Involved

Suppose you consent to participate in this study. In that case, you will be required to answer a series of questions prepared for the survey through a questionnaire to

obtain the intended information regarding determinants of drug uptake during the Trachoma Mass Drug Administration in this area.

Why have you been selected

You have been selected because you possess knowledge and experience in implementing Trachoma MDA in Turkana West Subcounty; hence the information you will provide will be detailed and generalizable.

Rights to withdraw and alternatives

Taking part in this study is entirely your choice. You won't be penalised if you choose not to respond to any question asked. You can stop participating in this study anytime, even if you have already given your consent. Refusal to participate or withdraw from the study will not involve penalty or restriction to receive drugs in future MDA rounds.

Benefits

We hope the information will provide essential data to assess the potential determinants for accepting azithromycin (trachoma) drugs during MDA. Study results will provide evidence-based decisions when planning future MDA programs.

Possible Risks

Breach of confidentiality or privacy. There are mechanisms to deter or prevent this from occurring through anonymization of the confidential information provided during the Key-Informant interview.

Who to contact?

If you have questions about this study, please contact:

Stephen Olubulyera,

Phone No:0721203032

Email: stevenjoram@gmail.com

Do you agree?

Verbally agrees

☐

Verbally disagree

☐

REPUBLIC OF KENYA



MINISTRY OF HEALTH

Key Informant Interview Guide

Moi University



Kenya Field Epidemiology and Training Program

Project: Determinants of drug uptake during Trachoma Mass Drug Administration in Turkana West, Turkana County, Kenya.

Questionnaire No.....

County.....

Designation.....

Name of Interviewee.....

Name of Interviewer.....

Date of

Interview:...../...../2023

Introduction

Welcome, and thank you for accepting to participate in this interview about determinants of drug uptake for Trachoma. This session will take about forty minutes and focus on Trachoma preventive chemotherapy at the community level and the factors influencing drug uptake during Mass Drug Administration for Trachoma. You are encouraged to state your opinions and to seek clarification throughout the discussion. There are no right or wrong answers; therefore, you are encouraged to share any information on the Trachoma Program by answering questions that will improve your work and the county's health. The interview will be recorded to capture all your opinions and responses. Your responses in this interview are confidential, and your name will not be linked to the responses; only numbers are used.

Introduction

- 1) According to the Trachoma Survey conducted in 2017, Turkana West Subcounty was leading in Kenya with Trachomatous Inflammation-Follicular (TF) of 17.5%. In your opinion, why do you think this is so?

Season Timings and Schedule for the Trachoma MDA

- 2) Based on seasonal timings, how feasible is the implementation of the Trachoma Mass Drug in Turkana West Subcounty? Considering the Nomadic Population and Urbanization?
- 3) Has the Annual Mass Drug Administration schedule been consistent in Turkana West Subcounty? Year and Month?
- 4) WHO recommends 80% treatment coverage for three to five years of annual azithromycin (antibiotics) mass administration for counties or sub-counties with a trachomatous inflammation-follicular (TF) more than 10% in children between 1 and 9 years. Given that Turkana West had a 17.5% in the 2017 survey, has the Trachoma Program achieved more than 80% in children between 1 and 9 years during the last five years?

Supply of Trachoma Drugs and Measuring Instruments

- 5) Has the supply of azithromycin drugs to the Trachoma Program at the County Level been consistent? Tetracycline and Tablets
- 6) Are the measuring instruments used during Trachoma Mass Drug Administration available? Adequate?

Community Sensitization and Mobilization

- 7) How is the community sensitised to Trachoma Mass Drug Administration?
- 8) How is community mobilisation conducted to reach the nomadic population? And Hard to Reach Areas?

Training and Capacity Building of Healthcare Workers

- 9) At the community level, who is involved in Trachoma Mass Drug Administration? Who constitutes a team?
- 10) How are training healthcare workers and community drug distributors conducted? Who trains? What does the training entail?
- 11) In your opinion, is the training adequate to facilitate the implementation of the Trachoma Mass Drug Administration without difficulties?

Support and Lower-Level Technical Support-Supervision

- 12) How does the Trachoma Program support the Trachoma Implementation Teams(Healthcare Workers and Community Drug Distributors) during the Trachoma Mass Drug Administration at the Community Level?
- 13) Considering the vastness of and nomadic population in Turkana West Subcounty, how does the program allocate teams and activity periods (number of days) to ensure everyone is captured and the target is achieved during the Trachoma Mass Drug Administration?

Thank you for your time and participation

Target Key Informant: Support Experts and Coordinators for Trachoma MDA Program

- b) Subcounty Eye Coordinator
- c) Subcounty Community Strategy Focal Person
- d) Subcounty Public Health and Promotion Officer
- e) Subcounty Pharmacist

REPUBLIC OF KENYA



MINISTRY OF HEALTH

Data Abstraction Checklist Tool

Moi University

Kenya Field Epidemiology and Training Program

Project: Determinants of Drug uptake during Trachoma Mass Drug Administration in Turkana West Subcounty, Turkana County, Kenya.



Date of Data Abstraction:...../...../2023

Community Questionnaire

Questionnaire No.....

County.....

Wards.....

Name of Data Provider.....

Name of Abstraction Team Lead.....

Introduction

Checklist for the abstraction of the MDA Coverage of the last three consecutive Trachoma MDA Programs in the four wards in Turkana West Subcounty

Wards	2020	2021	2022
	Trachoma MDA Coverage	Trachoma MDA Coverage	Trachoma MDA Coverage
Ward 1			
Ward 2			
Ward 3			
Ward 4			