Culturally Sensitive Ways to Increase Awareness and Improve Health-seeking Behavior; Health promotion project for TB and HIV co-infection in Kisumu -Kenya

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Laurea University of Applied Sciences **Abstract**

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The health promotion project conducted in Kisumu East Sub-County aimed to identify culturally relevant approaches for increasing awareness and improving health-seeking behaviours related to tuberculosis (TB), HIV co-infection, and their treatment and prevention measures. The project was carried out in collaboration with Community Health Support programme (COHESU), a local NGO with experience in implementing similar health promotion initiatives in Kisumu County, Kenya.

Kisumu County was chosen as the project location due to its high incidence rates of TB and HIV infections. Recent studies indicated that Kisumu had recorded over 1,000 HIV infections, ranking it as the third highest in Kenya, along with a substantial burden of TB cases ranging from 500 to 600 cases per 100,000 population. The project primarily targeted community healthcare workers operating at the primary and secondary prevention levels.

The health promotion project followed a comprehensive planning and evaluation process. The Health Belief Model was the theoretical framework. This model identified essential factors that drive behavioural changes and improve health-seeking behaviours. The main data collection method involved conducting interviews with key informants who represented community healthcare workers. Key informants were recruited anonymously using purposive sampling through the distribution of project flyers facilitated by the partner organization in Kisumu East Sub-County, based on specific inclusion and exclusion criteria. The collected data were analyzed using thematic data analysis methods.

One of the key findings was that culturally relevant health promotion gets easy recognition among community healthcare workers. They acknowledged that these efforts are vital for a smoother exchange of information within TB and HIV control projects and immunization campaigns. The need to allocate more resources was recommended, particularly for the training of culturally versed community health care volunteers in underserved communities, especially in the rural areas where most of the population resides.

Following the intensified mobility of people across the globe, the call for cultural sensitivity is taking center stage in political and cultural discourses. In this growing complex cultural landscape, health promotion works have to quickly adapt to this new reality by developing adequate and culturally sensitive health promotion strategies.

Keywords: Health promotion, Tuberculosis (TB), HIV co-infection, Health Believe Model, Kenya, Cultural sensitivity, Community Awareness

Contents

1 Introduction

Tuberculosis (TB) and HIV co-infection pose significant challenges to public health globally, particularly in regions with high disease burdens such as Kenya. The co-occurrence of these two infectious diseases amplifies the health risks and complexities for individuals and communities. Efforts to control and prevent TB and HIV co-infection require a comprehensive understanding of the cultural, social, and behavioural factors that influence health-seeking behaviours and the effectiveness of interventions. In 2020, TB ranked as the fourth leading cause of death in Kenya among communicable diseases and the thirteenth worldwide. (StopTB 2020.) The resurgence of TB in the country has been primarily attributed to widespread co-infection with Human Immunodeficiency Virus (HIV), observed in approximately 48% of new TB patients, which poses considerable obstacles for TB diagnosis and treatment. (Pan American Health Organization 2017.) Despite advancements in TB and HIV prevention, treatment, and immunization, the high disease burden resulting from new TB and HIV co-infections and missing cases remains a critical public health concern. According to the World Health Organization (WHO 2022a), numerous challenges can be attributed to a lack of knowledge regarding the causes of TB, delays in diagnosis, and inadequate treatment adherence.

Health promotion plays a vital role in public health as it facilitates the management and resolution of health-related issues for organizations, communities, and individuals. These can be achieved through the implementation of effective public policies, the creation of supportive environments, capacity building at both individual and community levels, and the promotion of culturally relevant health awareness. (WHO 2022b.) According to WHO 2022b, health promotion and education initiatives serve as valuable platforms for exchanging information between HIV and TB control efforts, as well as immunization campaigns. Allender, Rector & Warner, (2010) emphasize that community-level health promotion seeks to provide a comprehensive range of resources and collaborative activities to foster optimal culturally relevance community health. The utilization of the Health Belief Model holds the potential to enhance health-seeking behaviours and preventive actions within communities, while also addressing potential barriers to taking action. It is of utmost importance to expand treatment literacy projects and other health promotion services for communities affected by TB and HIV in Kenya (Allender et al. 2010).

In 2018, Kisumu County in Kenya emerged as one of the high-incidence areas for HIV, with an annual infection rate exceeding 1000 cases, ranking third after the neighbouring counties of Homabay and Siaya. Moreover, Kisumu County faces a significant burden of TB, with a disease incidence of 500-600 cases per 100,000 individuals. Given these statistics, it is evident that

health promotion and education are crucial in disseminating accurate information and raising awareness about TB, HIV co-infection, and immunization. (Kenya Ministry of Health 2018.)

The health beliefs of individuals affected by TB and HIV are influenced by their level of knowledge, cultural practices and access to information. A study conducted by Mbuthia, Olunga, and Ondicho (2018) revealed that conventional treatment practices still prevail in many parts of Kenya, particularly among pastoral communities, who often resort to alternative treatment modalities such as herbalism, traditional remedies, private clinics, and drug shops. The level of health promotion plays a significant role in shaping community health practices (Mbuthia et al. 2018). Similarly, a study conducted in Kiambu County by Kimani et al. (2021) indicated that lack of knowledge was the primary barrier to adherence to TB treatment. Insufficient information about the duration of TB treatment and the risks associated with interrupting the prescribed treatment were identified as reasons for non-adherence. Additionally, key informants who attended a health promotion workshop in Kisumu emphasized the importance of having hospitals and clinics in close proximity to the community, as it promotes voluntary screening for TB and HIV, raises awareness, and reduces the economic burden associated with long-distance travel for screening. Therefore, health promotion plays a vital role in achieving higher levels of well-being and health awareness within the community. (WHO 2022c.)

The health promotion project seeks to address this knowledge gap and explore culturally relevant approaches for raising awareness and improving health-seeking behaviours related to TB, HIV co-infection, and potential preventative interventions in Kisumu County. The workshop was attended by 16 key informants drawn from the community health care representatives and service deliverers from different facilities within Kisumu East Sub-County. Open-ended interviews ware employed after the health promotion workshop to get the opinions of the key informants about health seeking behaviours of the community about those two infections. Despite government and international efforts to eradicate TB and HIV, they remain a significant public health challenge that affect individuals and communities in Kisumu County. (Kenya Ministry of Health 2016.)

In order to mitigate health disparities and deliver satisfactory care, healthcare providers and organizations should acknowledge, respect, and integrate cultural beliefs and practices when working with diverse communities. By understanding the cultural beliefs, values, and practices of patients, healthcare providers can offer culturally appropriate care that enhances opportunities for health promotion and wellness. Purnell and Fenkl (2019) emphasize that cultural beliefs exert a powerful, albeit unconscious, influence on the health of individuals and communities, underscoring the importance of addressing each patient's unique perspective. (Purnell & Fenkl 2019.)

The Kisumu workshop highlighted the significance of health promotion campaigns in educating the public about TB and HIV prevention measures while delivering culturally sensitive care. The workshop emphasized the importance of timely medical attention, reducing the risk of infections, and addressing factors that affect treatment adherence. These factors include proximity to healthcare facilities, stigma associated with the diseases, cultural and religious perceptions regarding disease and treatment, psychological distress experienced by family members, and economic implications. Health promotion campaigns play a crucial role in raising awareness about TB and HIV screening and testing services, addressing psychological distress, encouraging people to get tested, and promoting appropriate support and treatment seeking behaviours. (Purnell & Fenkl 2019.) Additionally, such campaigns can combat stigma by providing accurate information about the diseases' impact and dispelling misconceptions. The outcomes of the workshop can be used collaboratively to tailor programs and effectively allocate resources to address the specific needs of the local population.

2 Background

Communicable diseases have a significant impact on the African region, accounting for nearly two-thirds of total deaths. Among these diseases, HIV/AIDS, diarrheal diseases, malaria, tuberculosis, and childhood diseases are responsible for 88% of communicable disease-related deaths. HIV/AIDS alone contributes to 38.5% of these deaths. The United Nations Sustainable Development Goal (SDG) 3.3.2 aims to end the tuberculosis epidemic worldwide, and this target has been adopted by Stop TB Kenya, with the goal of reducing the national TB incidence to fewer than 20 cases per 100,000. These public health challenges pose considerable socio-political, cultural, and economic burdens at both community and national levels in Africa. (Stop TB Partnership 2022.)

The Kenya Health Policy, implemented by the Ministry of Health and its partners, aims to provide affordable and quality healthcare to every Kenyan by 2030. The policy includes increased funding for the implementation of infection prevention and control measures, both internally and externally. Despite previous health promotion initiatives, TB and HIV co-infection rates remain high in Kisumu County. This calls for a deeper exploration of the cultural perspectives, barriers, and facilitators that shape health-seeking behaviours and the acceptance of preventive measures within the community. By identifying these factors, effective interventions can be designed and implemented to reduce the burden of TB and HIV co-infection and improve the overall health outcomes in Kisumu County. (Kenya Ministry of Health 2021a.)

Understanding the epidemiology of TB and HIV co-infection in Kisumu County is crucial for developing effective interventions. Previous studies have highlighted the high prevalence of

both TB and HIV in the region, with significant overlaps between the two diseases. Kisumu County has been identified as a hotspot for TB and HIV co-infection, with high incidence rates and challenges in diagnosis and treatment. In 2020, a total of 38,769 TB clients were tested for HIV countrywide, resulting in a positive rate of 11.5%. While the primary healthcare approach aims to be person-centred rather than disease-centred, encompassing health promotion, disease prevention, treatment, rehabilitation, and palliative care to address individuals' physical, mental, and social health needs, it is crucial for the government to enforce the implementation of formulated national policies, guidelines, and standards that promote the delivery of services tailored to meet the cultural needs of communities. (National AIDS Control Council 2020.)

2.1 Culturally relevant health promotion

Cultural competence and cultural sensitivity are interrelated concepts that are crucial for creating an inclusive society free from discrimination. A journal from the Finnish Institute of Health and Welfare (THL 2021) emphasizes the importance of cultural competence among healthcare professionals, as it enables them to understand and incorporate cultural norms and values from diverse cultures. Culture plays a significant role in shaping health beliefs, attitudes, and behaviours. The cultural context of a community influences the way individuals perceive and respond to health issues, including TB and HIV co-infection. Cultural sensitivity involves being aware, informed, skilled, motivated, and having encounters with different cultures. It promotes respectful communication and interactions between healthcare professionals and clients, regardless of cultural differences. Understanding and integrating cultural characteristics of health and illness into patient-centred care is particularly important in a country like Kenya, which has a diverse population with various ethnic and cultural groups. (Gradellini et al. 2021.)

The healthcare system in Kenya, like many low-income countries, is highly inequitable, with weak policies that fail to address the needs of the poor and vulnerable, particularly in rural communities where 70% of the population resides. The government's reluctance to increase funding for the healthcare sector has resulted in out-of-pocket payments being the primary method of financing healthcare services in Kenya. This situation has negatively affected many rural areas, which lack access to mainstream health services. (Chuma & Okungu 2011.)

Kenya is home to a diverse population comprising major ethnic, racial, and linguistic groups in Africa. The country is endowed with rich and diverse culture that brings together different ethnic groups who share unique and inherent knowledge of their traditional treatment practices. However, negative perceptions and attitudes towards traditional medicine persist, hindering open discussions between healthcare providers and health seekers. Culturally

insensitive reporting can further damage the reputation of traditional medicine, leading individuals to opt for alternative treatment options and potentially overlook TB and HIV prevention measures. Addressing these negative perceptions and promoting open dialogue is crucial. (Kanya Demographic and Kenya Demographic and Health Survey 2014; Gakuya et al. 2020.)

Khan (2021) emphasizes the importance of healthcare facilitators being aware of the institutional beliefs that influence the delivery of services. This awareness helps support cultural humility, competency, fairness, and improved access to care. However, discussing individual and systemic biases can be uncomfortable, leading healthcare executives, physicians, and other staff members to avoid such conversations. It is important to acknowledge that everyone holds prejudices, and ignoring or concealing cultural beliefs only exacerbates the issue. To foster change, healthcare organizations and facilities must confront these issues and become more comfortable having uncomfortable conversations. Cultural sensitivity in healthcare entails listening to and respecting the cultural desires and values of both patients and practitioners. Developing culturally appropriate health promotion strategies is crucial for engaging communities and effectively addressing the challenges of TB and HIV co-infection. (Khan 2021.)

2.2 Tuberculosis (TB) and HIV co-infection as a threat to human health

In 2015, it was estimated that there were 36.7 million people living with HIV globally, and 2-3 billion individuals infected with tuberculosis (TB). Additionally, there were 10.4 million newly diagnosed TB patients in the same year. Despite the availability of effective treatment and prevention measures, TB caused 1.5 million deaths in 2020, including 214,000 people living with HIV. TB is the 13th leading cause of death globally and the second leading infectious disease. Among people living with HIV, TB is the most common opportunistic infection, and HIV remains the strongest risk factor for developing TB disease and associated deaths in individuals with new or latent Mycobacterium tuberculosis infection. (IHME 2022; Sereti et al. 2019, 23.)

Tuberculosis (TB) not only affects adults in their productive years but poses a risk to all age groups. Developing countries account for more than 95% of global TB infections, with high rates of HIV-TB co-infection, especially in parts of Sub-Saharan Africa where it can reach 80%. The emergence of the HIV pandemic in sub-Saharan Africa has coincided with an increase in tuberculosis cases, highlighting the importance of continuous health promotion education and HIV-epidemiology in modelling prevention measures for TB infection. Individuals infected with HIV are 18 times more likely to develop active TB. People with compromised immune systems due to other health conditions are also at greater risk. Undernutrition triples the risk of

developing TB, making individuals in developing countries who cannot afford sufficient meals particularly vulnerable. TB and HIV create a deadly combination as each disease accelerates the progression of the other. (Sereti et al. 2019, 23.)

If the current rate of TB infection continues unchecked, it is projected that in the next 20 years, there will be almost one billion newly infected individuals, with up to 200 million developing the disease and 35 million dying from it. TB preys on weakened immune systems, and in many African countries with high TB and HIV prevalence rates, only a third of infected individuals receive a full course of TB drugs. Inadequate and inconsistent treatment practices contribute to the development of drug-resistant TB strains, which are difficult and costly to treat. HIV infection is a significant risk factor for converting latent TB into active TB, while TB infection accelerates the progression of HIV to AIDS. The combination of TB and HIV is more destructive together than each disease alone. (Anochie et al. 2018.)

HIV stands for Human Immunodeficiency Virus. Although the virus was originally transmitted to humans from monkeys, it is currently transmitted from human to human. The term "human immunodeficiency" reflects the virus's ability to attack and weaken the immune system. HIV is a virus that targets cells that help the body fight infection, leading to a weakened defence system and increased vulnerability to other infections and diseases. HIV spreads through contact with certain body fluids of an infected individual, with the most common modes of transmission being unprotected sex and sharing of injection drug equipment. If left untreated, HIV can progress to acquired immunodeficiency syndrome (AIDS). HIV testing is crucial, particularly for individuals at a higher risk of exposure, as early detection is essential to prevent the progression to AIDS. While there is no known cure for HIV, antiretroviral therapy (ART) can effectively manage the virus if taken as prescribed. Testing is the only way to determine one's HIV status, and progress has been made in developing preventive medicines, such as pre-exposure prophylaxis (PrEP), to stop the spread of AIDS among HIV-negative individuals. (Reinoehl 2013,13.)

2.3 TB vaccination and development of HIV vaccines

The Sustainable Development Goals (SDGs) for 2030, established in 2015, include Goal 3: Good Health and Well-Being. This goal aims to reduce child mortality and combat diseases such as HIV/AIDS, tuberculosis (TB), and other diseases. Immunization is recognized as one of the safest, most cost-effective, and powerful methods for preventing deaths and saving lives. The World Health Organization (WHO) emphasizes the importance of TB vaccination as a crucial measure for disease prevention. (Angelmedia n.d.; WHO 2021.)

According to Suliman et al. (2021), the Bacillus Calmette-Guérin (BCG) vaccine is the only legally authorized vaccine used against tuberculosis (TB). TB is a leading cause of infectious disease-related deaths, with 1.4 million deaths occurring in 2019 alone. The World Health Organization (WHO) recommends the administration of BCG vaccine during childhood in countries with a high incidence of TB or a high burden of leprosy.

The BCG vaccine is composed of a weakened strain of TB bacteria. It stimulates the immune system to provide protection against TB infection without causing the disease itself. The vaccine offers consistent protection against severe forms of TB, such as TB meningitis in children. A systematic review and meta-analysis conducted in 2014 demonstrated that the BCG vaccine reduced TB infections by 19-27% and lowered the risk of progression to active TB by 71%. (WHO 2020.)

The Bacille Calmette-Guérin (BCG) vaccine is a live attenuated bacterial vaccine used for tuberculosis (TB) prevention (Suliman et al. 2021.) It is available in lyophilized and liquid formulations, with recommended schedules for administration from birth to 59 months of age (Kenya Ministry of Health 2013). The vaccine should be stored refrigerated at 2–8°C (36–46°F) and protected from sunlight, and it should not be used after the expiration date (Ministry of Health, Kenya 2013).

BCG vaccination is contraindicated for individuals with impaired immune responses, such as those with HIV infections, congenital immunodeficiency, leukaemia, lymphoma, malignancy, or who are immunocompromised due to medication or radiation. The vaccine should not be administered to HIV-infected or immunocompromised individuals, including infants, children, or adults. (CDC 2016.)

Vaccines have played a crucial role in reducing the incidence of target diseases (Henderson, 1994). However, developing a vaccine for HIV/AIDS has been challenging due to the virus's high mutation rate (NIH, n.d.). Efforts to create a vaccine that can prevent HIV infection or treat those already infected are ongoing, aiming for safe, effective, and affordable options. (Reinoehl 2013.)

In Kenya, challenges in TB immunization include low levels of education, lack of guidance from healthcare workers, vaccine unavailability, low income, vaccine hesitancy, shortage of healthcare workers, missed appointments, and poor road infrastructure. These challenges contribute to under-immunization and delays in vaccinations, putting children at risk and affecting their growth and development milestones. (Mungai 2021.)

2.4 The status of Tuberculosis and HIV in Kenya

According to a study commissioned by The National Network of People Living with HIV in Kenya (NEPHAK) and Network of Men Living with HIV/AIDS in Kenya (NETMA+) in 2010, the adoption of TB/HIV collaborative policy by the Kenyan government, as recommended by the World Health Organization, aimed to provide free HIV testing and counselling for TB patients. However, the study concluded that the implementation of this policy has not been well understood by those responsible for its implementation. The study emphasized the importance of scaling up treatment literacy and other health promotion education services for both TB and HIV-affected communities in Kenya. (NEPHAK & NETMA+ 2010.)

In 2020, Tuberculosis (TB) ranked as the fourth leading cause of death in Kenya among communicable, nutritional, neonatal, and maternal diseases. It was estimated that 139,000 individuals became ill with TB, including 17,000 children. Furthermore, between 2018 and 2020, there was a 17% increase in the number of people missing with TB. Specifically, in 2020, there were 67,354 reported TB cases, with 11,384 of them occurring in children. (StopTB 2020.)

Nduba et al. (2015) conducted a cohort study to assess the prevalence of tuberculosis (TB) among adolescents in western Kenya. A total of 5004 adolescents were enrolled in the study, and it was found that 1960 adolescents, accounting for 39.2%, were identified with suspected TB. The study concluded that innovative active case finding strategies and broader utilization of the Xpert MTB/RIF diagnostic method are necessary in this population.

Enos et al. (2018) conducted a study to determine the prevalence of pulmonary tuberculosis (TB) and healthcare-seeking behavior among participants with TB symptoms. The study revealed that 64.9% of the participants who presented with TB symptoms had not sought any healthcare prior to the survey. Additionally, the study found that 48% of the participants had experienced cough lasting for more than two weeks. These findings indicate a higher prevalence of TB than expected and suggest that approximately half of the individuals affected by TB each year go undiagnosed. (Enos et al. 2018.)

The impact of HIV/AIDS is pervasive across various segments of society, including children, youths, adults, women, and men. Recognizing the multifaceted nature of the epidemic, complex strategic frameworks have been adopted to combat HIV/AIDS. These frameworks emphasize the importance of gathering reliable and comprehensive data to enable the country to better understand and address the key areas and populations where HIV transmission is most prevalent. By focusing on these areas, the aim is to reduce the number of new infections and mitigate the impact of the epidemic. (Kenya AIDS Response Progress Report 2014.)

In Kenya, as well as in many other countries worldwide, the diagnosis and treatment of tuberculosis (TB) are provided free of charge in public health facilities. However, there are often additional costs associated with seeking healthcare, such as transportation and accommodation expenses. Moreover, if TB is not diagnosed initially, there may be additional costs for other diagnostic tests and medications. The financial burden extends beyond the individual patient, as their household may experience a reduction in income or even loss of employment due to decreased productivity caused by the TB infection. Additionally, the social stigma associated with the illness can negatively impact employment opportunities and strain family dynamics. (Ministry of Health, Kenya 2017a.)

In 2019, Kenya experienced a total of 41,408 new HIV infections, and tragically, 20,000 individuals died due to HIV-related causes. However, the country has made significant progress in understanding and addressing the HIV epidemic. Notably, there has been a decline in the overall prevalence of HIV among adults aged 15-49 years, decreasing from 6% in 2013 to 4.5% in 2019.This progress can be attributed to various factors, including the implementation of effective HIV prevention programs that prioritize testing, the availability of antiretroviral therapy (ART) regimens, and improved viral load analysis. These advancements have greatly improved the quality of life for people living with HIV (PLHIV). With access to regular monitoring of their CD4 count, PLHIV can effectively manage their physical, emotional, mental, sexual, and reproductive health. This, in turn, contributes to economic stability and social well-being. (National AIDS Control Council 2020.)

Kenya exhibits a varied distribution of the HIV epidemic, characterized by geographic and population differences across the country. Among the counties, Homabay County in western Kenya has the highest prevalence, reaching 20%, while Wajir County in Northern Kenya has the lowest prevalence, with only 0.2%. When considering the distribution by gender, females have approximately twice the prevalence of HIV (5.8%) compared to males (3.1%) among people living with HIV (PLHIV) as of December 2019. (National AIDS Control Council 2020.)

HIV incidence rates also differ across counties in Kenya. Kisumu and Siaya counties, both located in western Kenya, have the highest incidence rates, reaching 6.9 cases per 1000 inhabitants. Conversely, Wajir and Mandera counties in northern Kenya have the lowest incidence rates, with only 0.01 incidences per 1000 inhabitants. Approximately 55% of the counties fall into the category of low incidence, with an annual case count below 500, while 25% of the counties, including Homabay, Kisumu, Siaya, Mombasa, Kisii, Nairobi, Nakuru, Ausin Gishu, and Kakamega, report over 1000 new infections annually, thus categorized as high incidence counties. An analysis of the sources of infection, based on the Kenya Modes of Transmission study, reveals that 62% of all new infections occur among individuals aged 15-29, with 15-24-year-olds contributing to 42% of these new infections. Additionally, the study

highlights that new infections are predominantly reported among females, particularly among 15-19-year-olds. (National AIDS Control Council 2020).

According to data from the Ministry of Health, Kenya (2018), there were approximately 52,800 new HIV infections reported annually across all age groups. The majority of the disease burden was among adults aged 15 years and older, accounting for 44,800 new infections in 2018. Additionally, children under the age of 4 accounted for 8,000 new infections in the same year. In 2018, the number of males and females aged 15 to 24 living with HIV was 184,718. The national HIV prevalence in Kenya was reported as 4.9% in 2018. However, despite the encouraging progress in HIV prevalence, the total number of people living with HIV (PLHIV) in Kenya was estimated to be 1.5 million in 2017. (Ministry of Health, Kenya 2018.)

The high number of tuberculosis (TB) cases and cases lost to follow-up can be attributed to delayed diagnosis, which is influenced by individuals' health behaviour. The Health Belief Model explains that various factors shape individuals' perception of their health and the actions they take to maintain and restore their health. The challenges in implementing TB/HIV policies have been linked to a lack of public health education. The study conducted by NEPHAK and NETMA+ in 2010 recommended the need for well-coordinated health promotion and education efforts to enhance collaboration and commitment between health policy makers and potential beneficiaries. (NEPHAK & NETMA+ 2010.)

Kenya has also taken significant steps in enhancing its understanding of the HIV epidemic by strengthening national and regional models based on new evidence and the latest developments. The country relies on data obtained from surveys conducted over time, such as the Kenya National Population-Based HIV Impact Assessment (KENPHIA) and the Demographic Health Survey, to guide its HIV programming. These surveys provide crucial information for generating annual HIV estimates, including key indicators like prevalence and incidence. The publication of the final report for national estimates every two years serves as a vital tool in guiding Kenya's overall HIV response. (National AIDS Control Council 2020.)

2.5 Health promotion policies related to TB and HIV in Kenya

Despite the presence of numerous health promotion initiatives in Africa led by local and global actors, there remains a significant gap in addressing public health challenges. In the specific context of Kisumu, health promotion efforts have focused on identifying culturally relevant strategies to increase knowledge and awareness of tuberculosis (TB), HIV-co-infections, and preventive measures among communities. According to the Pan American Health Organization (2017), tuberculosis continues to pose a significant public health and

development issue in Kenya, despite global achievements in TB case detection and treatment targets. The high prevalence of HIV-TB co-infection (approximately 48% of new TB patients) has contributed to the resurgence of TB in the country, posing challenges to effective diagnosis and treatment.

In a study conducted by Kimani et al. (2021) in Kiambu county, it was found that lack of knowledge was the primary reason for treatment interruptions in 71.8% of TB cases. Insufficient information regarding the disease, treatment duration, and associated risks of treatment interruption were identified as key factors contributing to non-adherence to TB treatment. Health promotion emerged as a crucial element in TB management, emphasizing the need for targeted interventions to address knowledge gaps and improve treatment adherence. (Kimani et al. 2021.)

The Kenyan Ministry of Health has outlined its vision as the creation of a healthy, productive, and globally competitive nation. To achieve this vision, their mission is focused on building a progressive, responsive, and sustainable healthcare system that enables the accelerated attainment of the highest standard of health for all Kenyans. The ultimate goal is to ensure equitable, accessible, and quality healthcare for every individual. The Ministry of Health is mandated with various responsibilities, including the development of health policies, regulation of health services, management of national referral health facilities, capacity building, and provision of technical assistance to counties. The healthcare system in Kenya involves a range of stakeholders, including public healthcare providers, private non-profit organizations (including faith-based and mission hospitals), local and foreign NGOs, and private for-profit healthcare providers. This diverse mix of providers contributes to the delivery of healthcare services in the country (Allianz Care 2022; Ministry of Health, Kenya 2017b.)

According to the Public Health Act, CAP 242 of Kenya, tuberculosis (TB) is classified as a notifiable infectious disease. This means that cases of TB must be reported to the appropriate authorities. In addition, the Act includes provisions under section 26 for the prevention and control of infectious diseases. It states that individuals who are exposed to or suffering from notifiable infectious diseases, including TB, may be isolated in designated facilities and detained while receiving medication. This detention is necessary until the medical officer of health determines that the person is no longer infectious or can be discharged without posing a risk to public health. In the past, TB patients who refused to take their medication could be imprisoned based on court orders while undergoing treatment. Rather than being housed in medical institutions, these individuals were kept in prison. However, on March 24, 2016, the High Court of Kenya revoked the practice of detaining patients who failed to comply with their anti-TB treatment. This led to the development of new guidelines and policies regarding isolation and treatment for TB patients. (Ministry of Health, Kenya 2016.)

The National Strategic Plan for Tuberculosis, Leprosy, and Lung Health 2019-2023 in Kenya outlines three main priorities. Firstly, it aims to provide quality services for tuberculosis (TB), leprosy, and lung health to individuals seeking care across the healthcare system. The plan emphasizes the need to establish networks among different care providers, bridging the gap with the private sector. All healthcare facilities are expected to have the capacity for TB diagnosis using Xpert technology or have arrangements for transporting samples to qualified laboratories. (Ministry of Health, Kenya 2019.)

The second priority is focused on screening and treating TB infection, particularly among high-risk groups. The plan emphasizes the importance of early identification of TB cases, even before individuals seek care, and ensuring that they receive quality treatment. The third priority aligns with the universal health coverage (UHC) agenda and aims to include TB, HIV/AIDS, and malaria in the essential benefit package of UHC. This ensures that these infectious diseases receive comprehensive coverage and support under the national health system. To address the co-infection of TB and HIV/AIDS, the Kenyan government has integrated the National Leprosy and Tuberculosis Programmes (NLTP) and the National AIDS Control Program (NACP) into the Division of Leprosy, Tuberculosis, and Lung Disease (DLTLD) under the Ministry of Public Health and Sanitation. This integration has facilitated collaboration between TB and HIV/AIDS activities throughout the country. The NTLP has developed guidelines for TB infection prevention and control for healthcare workers in Kenya. These guidelines provide information on isolation measures and educate healthcare workers on TB infection, prevention, and treatment. Factors contributing to the spread of TB include improper coughing etiquette, such as not covering the mouth and nose while coughing. The risk of transmission increases when TB or drug-resistant TB is left untreated or when diagnosis is delayed. (Ministry of Health, Kenya 2021b; WHO 2020.)

The Kenya Health Policy 2012-2030 (KPH) and the National Infection Prevention and Control Policy for Health Care Services in Kenya 2015 provide the foundation for the Kenya National Strategic Plan for Infection Prevention and Control 2021-2025. The overarching goal of the Kenyan Health Policy is to ensure affordable and quality healthcare for all Kenyans. To implement the plan for infection prevention and control, the Kenyan Ministry of Health, along with its partners, has developed strategies to secure funding from internal and external sources. These sources may include government resources, private partnerships, and support from implementation and development partners. A key strategy for resource mobilization is leveraging existing programs within the Ministry of Health that focus on infectious diseases such as tuberculosis (TB) and HIV/AIDS. By aligning the objectives of infection prevention and control with these existing programs, the Ministry aims to optimize resource allocation and utilization. (Ministry of Health, Kenya 2021a.)

3 Aims and Objectives

The project aim was to identify culturally sensitive ways of increasing awareness and improving health seeking behaviours for TB, HIV-co-infections, and possible prevention measures in Kisumu County.

1. To identify the cultural perceptions of the community healthcare workers about the causes and prevention of TB and HIV co-infections.
2. To identify 1) the culturally relevant means of improving awareness of TB and HIV co-infection and 2) the local treatment possibilities reported by the community healthcare workers and service deliverers.
3. To define how to reduce the perceived barriers of TB and HIV co-infection prevention and treatment from the point of view of the community healthcare workers and from the point of view of the service deliverers.

4 Methods

The next chapters give an in-depth description of project methodological process including the planning and evaluation stages, the health promotion model that was used and its application in the project, study design, Data collection, data management plan and data analysis.

4.1 Development tasks and issues

The project aimed to target community health care workers involved in primary and secondary prevention levels. The primary health promotion aspect focused on identifying and reducing risks, as well as addressing problematic health behaviours among individuals, such as avoiding healthcare when experiencing early signs of disease or making unhealthy decisions like relying on unconventional medical alternatives. On the other hand, the secondary health promotion component aimed to address both risk factors and protective factors that are crucial for enhancing overall quality of life. (Fertman & Allensworth 2010.)

The health promotion project went through planning and evaluation stages as demonstrated in the table 1.

Planning	Issues

Problem Definition	– Defining the problem- Health promotion workshop for TB, HIV and Immunization in Kisumu East Sub- County, Kenya – Target group for the intervention- community health workers and service deliverers – Finding project partners- COHESU
Solution generation	Theoretical background of the project- The project utilizes HBM which has the potential for behavioural change e.g demonstrating the severity of the disease and finding ways to minimise barriers to taking action, hence encouraging cues to action- – Defining the interview questions – Piloting with the interview questions – Redefining the interview questions
Resource Mobilization	– Travelling, accommodation and living expenses during the project workshop – Applying for permits/approvals – Miscellenious expenses
Implementation	The theory was used as a benchmark to compare the success and gaps for similar projects in the area. – Meeting with partners in Kisumu – Carrying out the workshop in Kisumu East subcounty – Data collection through interviews with key informants representing community. – Data analysis – Making necessary changes
Impact assessment	– Evaluating the workshop, success, and failures – Evaluating the project – Compiling final report
Intermediate outcome assessment	– Compiling workshop results
Outcome assessment	– Publishing the result in Theseus and Global window

Table 1: Planning and evaluation cycle modified from Nutbeam et al. 2010

4.2 Description of the development theory and its application

According to the WHO Regional Office for Africa (2013), health promotion interventions play a crucial role in addressing health problems, and it is necessary to adopt multisectoral approaches. These interventions have been incorporated into various WHO programs and strategies with the aim of empowering communities and individuals to adopt healthy behaviours, including the implementation of policies and regulations. However, the 2019 Global Conference on Health Promotion held in Nairobi highlighted the existing gaps in the implementation of health promotion, emphasizing the need for stronger leadership and the empowerment of individuals and communities. (WHO Regional Office for Africa 2013, 2.)

The previous Health Promotion Strategy for the African Region 2001-2010 identified four areas that require change and improvement. Firstly, there is limited involvement of development partners and community-based groups in taking action and implementing regulations. Secondly, there is a shortage of human resources for health promotion at the community level. Thirdly, there is minimal utilization of qualitative and quantitative studies in health promotion to assess implementation progress and measure program effectiveness. Lastly, there are challenges related to financing health promotion efforts. To address these gaps and obstacles, concerted efforts have been made to enhance the capacity of both health and non-health workers through training and policy development. Emphasis has been placed on promoting community mobilization, raising public awareness, and facilitating community responses. In Kisumu, it was observed that many respondents agreed on the importance of establishing more health facilities closer to the communities to effectively combat TB and HIV (WHO Regional Office for Africa 2013, 7.)

4.2.1 Health promotion Models

There are numerous health promotion theories that highlight various aspects of behaviour change. These theories differ in their focus, with some emphasizing the role of the individual, while others consider families, communities, institutions, and cultures as the unit for change. In the health promotion project, the Health Belief Model was employed to provide a framework for understanding the factors that influence behavioural changes and to guide the exploration of the participants' personality and environment. (Dignan & Carr 1994; Rimer & Glanz 2005.)

In addition to educating individuals, health promotion encompasses efforts to modify organizational behaviour and transform the physical and social environments of communities. This involves the development and advocacy of policies that support health, including changes in lifestyle and the implementation of economic incentives. Theories in health promotion are

essential tools for addressing intrapersonal factors such as knowledge, attitudes, beliefs, motivation, self-concept, and skills. Researchers have developed psychological models to enhance the effectiveness of health education programs. As early as the 1950s, it was recognized that demographic variables such as socioeconomic status, gender, and ethnicity are associated with preventive health behaviours and health-seeking habits. While health education and public health financing may not eliminate all demographic variables, effective health education is necessary to target individual modifiable characteristics that predict preventive health behaviours and healthcare utilization. Among the most extensively studied and researched intrapersonal health theories is the Health Belief Model, which originated in the 1950s to understand health-seeking behaviours. (Fertman & Allensworth 2010; Norman & Conner 2005, 49.)

4.2.2 The Health Belief Model

The Health Belief Model (HBM) is a theoretical framework that operates on the premise that an individual's health behaviour is influenced by their beliefs regarding the susceptibility and severity of a particular health concern, as well as their perception of the effectiveness of preventive measures. According to the HBM, individuals are motivated to engage in health-related actions based on their beliefs about the threat of disease. The model assumes that people are more likely to take preventive action if they believe that such action will effectively prevent disease and maintain their health. The HBM has been utilized in various contexts, including the identification of individuals at risk for tuberculosis (TB) and their participation in screening programs and other disease prevention initiatives. In the management of TB treatment, the HBM emphasizes the importance of increasing individuals' self-efficacy through knowledge and providing support from healthcare workers and medical supervisors. The aim is to promote adherence to treatment through effective counselling and guidance. (Parwati et al. 2021.)

The model reveals that people’s readiness to take a specific action is based on firstly: The desire to avoid illness, get well and to improve health; and secondly the belief that a specific action be effective in this regard. HBM has been posited with expectancy value theory because it is concerned with values for life and individual expectations. As a result, the HBM attempt to explain the likelihood of preventive health behaviour based on the belief about the perceived threat and the benefits of the recommended action. According to the mode, people are more likely to act when they regard themselves susceptible to a condition that has serious consequences such as TB and HIV preventive measures, if they belief the course of action would be beneficial. (Simons-Morton, McLeroy & Wendel 2012, 4.)

Health behaviour depends on many aspects like individual characteristics, and it is influenced by the environment, economic and social aspects. Inequalities in health provision such as; the problems to access to healthcare services have a major impact on individuals health behaviour. Health Belief model have originally been invented and it is the most useful for preventive health behaviours such as immunisation and screening. Model emphasizes the individuals' own perceptions of the health threat/problem and the benefits that comes with avoiding the threat. (Nutbeam et al. 2010, 11-12; Rimer, Glanz & Viswanath 2015).

There are two aspects of individual representation of health and health behaviour that HBM focuses on: 1.) Threat perception and 2.) behavioural evaluation. The perceived threat to disease is further elaborated in two key beliefs which are 1.) perceived susceptibility to illness or health problems and 2.) anticipated severity of the consequences of anticipated illness. On the other hand, behavioural evaluation consists of two sets of beliefs such as: 1.) those concerning the benefits of a recommended health behaviour and 2.) those concerning the costs of, or barriers to enacting behaviour. Additionally, the model outlined that cues to action can activate health behaviour when appropriate health beliefs are held. For instance, cues to action included diverse triggers which includes individual's perception of symptoms, social influence, and health education campaigns. Finally, the model elaborated on individual's health motivation and readiness to be concerned with health matters. In health promotion campaigns, perceived benefits of taking an action are weighed against the perceived barriers of taking recommended action and health education is used as a catalyst for turning inaction to action. (Norman & Conner 2005, 39.)

In health promotion, HBM focuses on preventive health behaviours among broad range of populations. These could include for example, different types of screening for TB, government immunization policies and protective sex behaviour. Cues to action can include a range of experiences which has resulted in diverse application of the model by different researchers, for instance some physicians operationalise cues to action when giving recommendations or advice about smoking cessation and immunization while media uses cues to action such as radio advertisements, poster campaigns and films in attempt to prevent some disease such as TB, HIV and Cholera. (Norman & Conner 2005, 41.)

HBM succinctly posits that individuals are likely to take action to prevent an illness if they regard themselves as susceptible to a condition that they belief could have a serious consequence and if they are convinced that a particular action available to them could reduce the severity or lead to other positive outcome which would outweigh barriers attributed to the health action. Additionally, the model elaborated that specific cue such as factors in one's environment have direct impact on the final action one is likely to take, and those factors can be internal ranging from experiencing symptoms of an illness to external factors ranging from exposure to health campaign. (Jones et al. 2014, 566, 576.)

There is some evidence that behavioural science-based public health and health promotion initiatives are more successful than those without theoretical models. However, there is no theoretical model to serve as a guide in the interventional studies on TB treatment adherence that are currently available. Health Belief Model (HBM) is suggested as a useful model to understand and explain health behaviours, such as treatment adherence, that patients must practice. It is also helpful to develop behavioural treatments that are relevant to the targeted communities. HBM is a theoretical model that has been built from six domains, namely: perceived susceptibility, perceived severity, perceived barriers, perceived benefit, cue to action, and perceived self-efficacy. However, HBM has been criticized for putting emphasis on individual characteristics and cognitive factors, giving less attention to social influences and emotional components of behaviour. (Tola et al. 2016.)

Treatment non-adherence levels within the intervention group were dramatically lowered by psychological counselling and adherence to education interventions that were based on the HBM theory. The environment, economy, and social factors all have an impact on health behaviour, as do individual qualities. Individuals' health behaviours are significantly impacted by disparities in the delivery of healthcare, such as issues with access to healthcare services. When it comes to preventive health behaviours like immunization and screening, the health belief model was the first to be developed. The model places a strong emphasis on how each person views the threat to their health and the benefits that result from avoiding it. (Tola et al. 2016.)

4.3 Study design

According to Busetto et al. (2020), qualitative research is characterized by its flexibility, openness, and responsiveness to the context being studied. Unlike quantitative research, the steps of data collection and analysis in qualitative research are not strictly separate and consecutive but often intertwine throughout the process. The process of qualitative research involves several key steps, including conceptualizing and planning the study. This involves determining the research questions or objectives, selecting appropriate methods for data collection (such as interviews or observations), and considering ethical considerations and potential biases. Once the conceptualization and planning phase is complete, data collection begins. This typically involves gathering information through interviews, focus groups, or other methods that allow for rich and detailed insights into the research topic. Data collection often involves iterative processes, where early findings inform subsequent data collection strategies. (Busetto et al. 2020.)

Simultaneously, data analysis takes place, with authors examining and interpreting the collected data. This may involve organizing and coding the data, identifying themes or

patterns, and drawing connections between different pieces of information. Data analysis is an ongoing and iterative process, with authors continually refining their interpretations and seeking to develop a comprehensive understanding of the data. Qualitative research is a dynamic and iterative process that involves flexibility, responsiveness to the context, and a deep engagement with the data. It allows authors to gain rich insights into complex phenomena and explore the subjective experiences of individuals or groups, as shown in figure 1. (Busetto et al. 2020.)

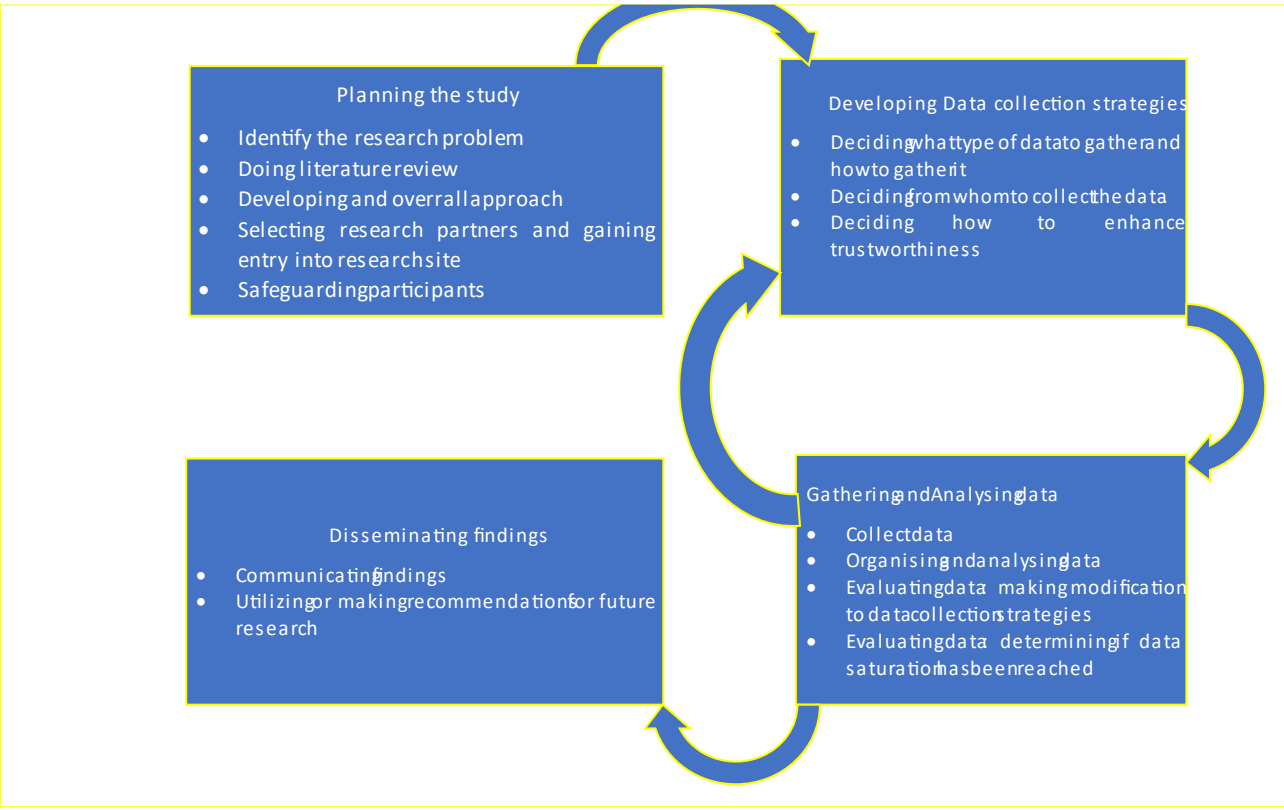

Figure 1: Conceptualizing and steps modified from Polit and Beck 2008

This project employed a qualitative research method to investigate the health beliefs, motivations, and barriers to action related to tuberculosis (TB), HIV co-infection, and vaccination. Key informants from Kisumu East subcounty were engaged to provide insights and perspectives on these topics. The chosen approach allowed for an exploration of the participants experiences as well as providing a rich understanding of the factors influencing health related behaviours in the context of the two infections that were being studied and the available prevention measures.

4.3.1 Planning the study

The PICO (Population, Intervention, Comparison, Outcome) model was employed during the initial stages of the research to identify the research problem, intervention methods, comparison, and outcome. This model, as described by Eriksen 2018, is widely used for formulating research questions, and is recognized for its effectiveness in focusing on the most important issues and outcomes. By utilizing the PICO model, the study was able to define the specific population of interest, determine the intervention being investigated, establish a basis for comparison, and identify the desired outcome measures. Kisumu was selected as the study location for TB and HIV health promotion based on previous studies indicating a high prevalence of new HIV and TB infections. This made Kisumu an ideal setting for implementing health promotion interventions targeting these specific health concerns as shown in table 2. (Eriksen 2018.)

Table 2: PICO Model modified from Eriksen 2018

Population	Key informants were chosen from community health care workers and service deliverers from Kisumu County Kenya
Intervention	Health Promotion workshop in Kisumu East sub-county, Kenya
Comparison	Comparing effectiveness of Health promotion in Kisumu County through interactive health promotion workshop and feedback during the workshop and the post workshop interview with key informants.
Outcome	Finding culturally relevant ways of creating awareness about TB and HIV as well as possible treatment options in Kisumu County

4.3.2 The project partner

The project was carried out in partnership with a local non-Government Organization, which was identified through a local contact person who has been implementing similar health promotion project within Kisumu County. Community Health Support Program (COHESU) is a Non-Governmental Organization. The Organization was registered as a national, fully non-political NGO on 21st December 2001. Currently COHESU operates in the Western regions of Kenya, which were previously known as Western and Nyanza provinces. The main goal of COHESU is to promote better health and wellbeing of disadvantaged community members in Kenya. COHESU approach this goal by mobilizing resources, providing training and workshops, and conducting research that enable the target communities to participate in prevention and control of health problems, including physical, mental and psychological issues. (Abudho 2022.) The study design, characteristics of participants and location of the study were settled on after several discussions and guidance between supervisors and the authors.

4.4 Piloting interview questions

Post workshop interviews were piloted through teams in Kenya with a group of health care professionals who exhibit some characteristics which are similar to the key informants such as leading program implementations in the community, working as a team leader in service delivery, community project coordinator and health promotion experts. Piloting participants had the opportunity to scrutinize interview questions and share their suggestions on areas which needed polishing. Authors made necessary corrections to interview questions according to suggestions during the piloting session.

4.5 Health promotion workshop

1. Workshop presentation and discussion

The workshop began with a short introduction of the day's agenda, followed by distribution of health promotion information sheet and anonymous collection of key informants' agreement to participate in the post workshop interviews (Appendix 1). Authors reassured participants about anonymity of the study and the promise not to take participant's photos during and after the workshop. Each participant got bottled water, soft drink and snacks during the workshop presentation and discussions.

The workshop continued with a presentation of health promotion for TB and HIV co-infection in Kisumu East Sub- County which lasted for 90 mins. Authors shared responsibilities during the workshop as follows:

- Medhanit Chernet (MC); Giving necessary forms to participants during the workshop, gave presentation about TB-Immunization.
- Milka Pietilä (MP); Introducing participants to the workshop, gave presentation about Tuberculosis (TB).
- Gabriel Riako (GR); Co-ordinated the workshop process, gave presentation about HIV co-infection.

The workshop approach was a mixture of health promotion presentation by authors (Appendix 10) and open discussion by workshop attendants.
Participants were given notebooks and pens during the workshop to allow for active recalling about the health promotion and refreshing their memories during open discussion.

2. Interviews with Community health workers and service deliverers

The next phase of the workshop started with giving instructions about the interviews. Key informants who agreed to take part in the interview were divided into two groups, with authors MC & GR interviewing community health workers and author MP interviewing service deliverers. The authors considered the promise to keep the whole process anonymous by having interviews in secluded places. Participants were informed that they are free to discontinue with interviews without facing consequences.
3. Reflection
At the end of the workshop, participants received transport reimbursement through project partners from Kisumu. Afterwards, authors reflected on the overall workshop and financial spendings during the workshop process.

4.6 Data collection

The goal of data collection is to capture quality evidence from the key informants' point of view, which can translate to a rich data about key informants' experiences, perceptions, feelings, opinions which can allow the construction of convincing and credible answers to the study questions that were posed. The main data collection for the project was through open-ended interviews with seven key informants representing community health care workers who agreed to take part in the post workshop interviews. The use of open-ended interviews enabled the authors to capture the point of views of key informants and allow room for elaborating on key points. (Kabir 2016.) The nature and type of data to be collected were influenced by factors such as approvals/permits from both ends (Appendix 8 & 9), the official language spoken by key informants, and financial cost for data collection since the project was majorly funded by the authors as indicated in the project budget (Appendix 5). After wide consultation with supervisors and looking into the other implications, the authors settled on anonymous open-ended interviews with key informants from community health care providers and service deliverers.

Recruitment of key informants from community health care workers and service deliverers were done by distributing flyers (appendix 2) through project partner organization (COHESU) in Kisumu East Sub-County. The participants were chosen through purposive sampling according to the inclusion and exclusion criteria. Purposeful sampling is widely used in qualitative research for identification and selection of information rich case that are related to the phenomenon of interest. This project settled on key informants because of their day-to-day contact and rich in information about the phenomenon that was being studied. (Pelinkas et al. 2015.)

4.6.1 Characteristics of key informants

Key informants for the project were selected through purposive recruitment with the aim to attract individuals who possess specific skills, knowledge and experience deemed necessary for obtaining rich data. The essential key attributes of participants were tailored using an inclusive and exclusive criterion as shown in the table below. As Patino & Ferreira 2018 posits, inclusion and exclusion criteria are part of research procedure which guides in answering to the research question and prevent characteristics that might interfere with effectiveness of research outcome. A total of seven key informants representing community health care workers such as: Community nurses, nutritionists, TB and HIV coordinators, public health workers, and pharmacists turned up for the post workshop interviews. Recruitment was anonymous and the participants were only required to indicate their willingness to participate without any further personal information. (Patino, & Ferreira, 2018.)

Inclusion in the study	**Exclusion from the study**
Key informant from the community health care workers (Community nurses, nutritionists, TB and HIV coordinators, public health workers, and pharmacists)	Not a key informant
Ability to speak and write in English	Not able to speak/write English
Willingness to consent in the research project	Did not consent to take part in the project
Over 18 years of age	Under 18 years of age

Table 3: Inclusion and Exclusion criteria for selecting health promotion workshop and interview participants.

Key informants were briefed at the end of the workshop about the number and nature of interview questions which are attached in (Appendix 3.). They were further informed about the possibility to discontinue with the interviews in case the needed data has been saturated.

4.7 Data management plan

According to the Office of the data protection Ombudsman (n.d) personal data is all data that is related to identify individuals indirectly or directly. Sensitive data like the names, diagnosis or health condition of the participant were not collected. Data Management is from

collecting, protecting, managing, restoring, and destroying the data. (Office of the data protection Ombudsman n.d.) The health promotion workshop in Kisumu East subcounty did not collect any personal data from key informants. Recruitments were done anonymously through project partner.

Below is a demonstration of steps that will be taken to protect participants data during and after the health promotion project:

Interviews were recorded via borrowed offline digital recorders from Laurea University of Applied Sciences and from one of the students in the project. The recordings were temporarily stored in the memory of the recorders.

Interview recordings were then transferred to authors memory stick which is secure for academic files. Data were eventually erased from recorders after transferring to secured software. Each student take responsibility for the security of data stored in their computers and ensure that no third party have access to it. All data will be deleted after the publication of the thesis which is scheduled for 6/2023. The authors ensured that participants remained anonymous before, during and after the workshop. The process of data collection and storage minimised the chances of accidental leak of information. However, authors will take individual responsibility for any carelessness that might result to breach of confidentiality.

4.8 Data analysis

According to Patton (2002), qualitative data analysis requires a combination of creativity, intellectual discipline, analytical rigor, and critical thinking. In recent years, computer software tools have been utilized to assist in the analysis process. However, their role in qualitative data analysis is limited to facilitating tasks such as data storage, coding, retrieval, comparison, and linking.

Braun and Clarke (2006), describe the qualitative study approach as diverse, complex, and nuanced, and they advocate for thematic analysis as a fundamental method for analyzing qualitative data. Thematic analysis was employed as the primary method for analyzing the data collected from Kisumu East Sub-County. Thematic analysis involves systematically reviewing and coding data to identify recurring patterns, ideas, or themes. It is a suitable method for analyzing various qualitative data sources such as interview transcripts, focus group discussions, field notes, and documents.

By utilizing thematic analysis, the researchers aimed to identify and analyze meaningful patterns within the data, which would provide insights into the health beliefs, motivations,

and barriers to action regarding TB, HIV co-infection, and vaccination among the key informants in Kisumu East Sub-County. (Braun and Clarke, 2006.)

The process of thematic analysis typically involves the following steps:

Step 1. Familiarizing with data	Becoming familiar with the entire data set is the first step when using thematic analysis as a data analysis method. This entails repeating and active reading through the entire data.
Step 2. Generating initial codes	This involves identifying and labelling different segments of the data that relate to specific concepts or ideas.
Step 3. Searching for themes	This involves grouping codes together to identify broader patterns within the data.
Step 4. Reviewing themes	This involves reviewing and refining the themes to ensure that they accurately reflect data.
Step 5. Defining of themes	This involves defining and naming of each theme, and selecting name that captures its essence.
Step 6. Producing the report/Manuscript	This involves organising and presenting the themes in coherent and compelling way, using example from the data to illustrate key points

Table 4: Stages of thematic analysis adopted from Nowell et al. 2017

Step 1: Familiarizing with data

Interview recordings were downloaded with the help of Microsoft word software onto the students' computers for transcription. All data files were allocated unique identifiers with the first two letters "KI" to indicate that they were from key informants and the last three numbers ("173", "174", "175", e.t.c) to indicate the order of interviewees. All the raw data were archived in Microsoft word with dates to provide an audit trail and for easy referral during data analysis. Data transcriptions were done with the help of Microsoft word and the grammar of the transcript manually corrected by listening to original recordings several times.

Step 2: Generating initial codes

After transcription and correcting of the grammar, all the data were entered onto a spreadsheet to ease reading and identification of initial codes. Initial codes were manually identified by going through the whole data sets and highlighting them with different colors. ATLAS.ti software program was used to aid in the sorting of the data set. (ATLAS.ti, 2023.)

Figure 2: ATLAS.ti word frequency

Step 3: Searching for themes

Interview questions were constructed according to HBM which covers a wide range of key informants' perceptions, motivation, barriers, and cues to action. However, themes were formed inductively without trying to fit them into a pre-existing framework. Miscellaneous codes such as long pause, repetitiveness, laughter e.t.c, were also noted when searching for the themes. In some instances, tables were used as a way to make sense between themes and original transcripts.

Q2. Kindly share the benefits of voluntary screening for TB and HIV.	Codes	Theme

A. *"Voluntary screening is important because one they will not be stigmatised because someone has come willingly to be screened for TB and HIV. And then it will be easier to start treatment on time and then prevention is also easy".*	"Stigma-free", "Willingness", "Timely treatment", "Prevention"	Important of voluntary screening for HIV and TB." *Voluntary screening have the potential to reduce stigmatization associated with TB and HIV infections, and can improve timely prevention and treatment".*

Table 5: Constructing themes

Step 4. Reviewing themes

Themes and sub-themes in the data analysis were vetted through teams' discussion with co-author to determine their suitability in answering to the research aims and objectives. Some themes were refined and merged because the content was deemed to have answered a different question. In many instances, raw data were used as reference to ensure that all the themes were a true reflection of key informant's own voices.

Step 5. Defining and naming themes

The final themes were discussed together with co-authors to ensure the credibility of the findings and how they answer research question. Data transcripts were once more revisited to scrutinize that all data were represented.

Step 6. Producing the report

The process of compiling the final report started after establishing final themes. Consolidated criteria for reporting qualitative research by Tong, Sainsbury and Craig (2007), was used to guide the final reporting. The COREQ checklist is credited with promoting explicit and comprehensive reporting of interviews and focus groups (Tong et al. 2007).

5 Results

The objective of the project was to identify culturally appropriate methods for increasing knowledge about TB, HIV co-infections, and potential prevention interventions in Kisumu County, as well as improving health-seeking behaviours. The study aimed to explore the cultural perspectives of the community regarding the causes and prevention of TB and HIV co-infections, and to identify culturally appropriate strategies for raising awareness and local treatment options, as reported by community members and service providers. The goal was to gather insights from both the community residents and care providers in order to outline approaches for reducing the perceived burdens of TB and HIV co-infection. This chapter presents the reporting of the interview results, including relevant quotations from the key informants from community health workers.

5.1 Culturally relevant prevention and treatment

Majority of key informants indicated that community members may delay seeking medical treatment, and instead opt to try over-the-counter medications or traditional remedies. Seeking alternative treatments was attributed to cultural and spiritual reasons. Traditional marriage where couples live together for extended period before legal registration was highlighted as potential barriers to HIV testing.

> You see, somebody will start with cough, today they are coughing, tomorrow they are coughing, the third day they will go to buy drugs over the counter. They will buy antibiotics, take that antibiotic and the cough is not going and again, and again and again. If that cough is persistent, they will maybe seek remedy, the home remedy, the mixture of lemon, ginger, honey and what have you. So they will start using that. By the time they will be realizing that this is beyond the home remedy, they will be coming to the facility. And some of our clients, they will be coughing, coughing, coughing and take themselves to spiritual leaders for prayers definitely but we all know that even if they are praying, let us go for modern medicine also, so that we can combine the two. [KI870178]

> Yes, you have to be tested for HIV when you are going to get married, that is legally. But you see most of our marriages, you stay with somebody for some time before you go the legal, so it is not like for everybody. And you see mostly the men, the men don't want to go for tests. It just forces them to go for these tests. [KI870179]

HIV and TB prevention and treatment had different regimens which the community perceived to be relevant to them as ways of prevention and treatment of the diseases. Community empowerment, creating awareness on the treatments and prevention methods, adherence of drugs both prophylaxis when breastfeeding and Anti-retroviral, use of condoms, abstaining, follow-ups from the community health workers/CHVs, HIV testing and taking TB vaccines were among the prevention regimens. Some community members would prefer home remedies like

concoctions and herbs while other prefer not to seek treatment and opt for prayers due to their beliefs.

> First of all is empowerment, maybe knowledge empowerment because we have many people who have knowledge deficit on the side of HIV; that is whereby we find myths. So we have to empower these people with knowledge on how they are being infected because if you find that, if you tell somebody that it is maybe transmitted through sex, you have to look for ways and maybe a mode of telling them because you don't say it directly. So you just tell them how a person can be infected sexually, how they cannot share these sharp objects and maybe encourage these people to know that HIV is not really, cannot, when you are infected, you are infected but you can still live longer and also TB is treated if somebody goes for it. So it is just giving knowledge. [KI870175]

> The first one for TB, there is vaccination at birth and again when, in consideration of the environment, whenever we are in closed doors, we are supposed to open them and windows every time that we are there. And also when we associate with those who are already infected, we should take care of the distance between the two of you. With HIV, just creating awareness how it is contracted and again abstaining from unprotected sex. [KI870177]

> To me all the regimen are culturally relevant. It just depends with somebody's cultural beliefs. There are people who believe they cannot go to the, they cannot seek treatment because they believe in going for prayers. Others are just stubborn. They don't want to go for treatment. They say that once you have started the treatment especially some TB patients, they say that "I don't have food to eat so I am not able to take these drugs because they will be tired and weak. And they will say, I cannot take these drugs because they will make me weak yet I do not have food to eat. [KI870176]

Majority of the participants expressed their opinions by supporting voluntary screening of HIV and TB. It was perceived by the community to be of beneficial since it led to the prevention, early treatment and control of the bacteria and the virus. Reduction of death and poverty, happy living, reduction of medication defaulting, use of less money on medication, less resistance and stigma reduction were among the benefits of voluntary screening.

> So voluntary screening for TB, when you screen for TB early you are able to get treatment early and then you reduce the causes of deaths in the community and poverty in the community because when it is diagnosed late, the family will spend a lot of money so that that person can get well. [KI870174]

> Yes, it will make the patients to access medications. It can also reduce deaths, that is mortality and people can live healthier, they can live healthy lives. [VN870175 Voluntary screening will lead into early diagnosis and early treatment and control also [VN870176]

Majority also acknowledged that voluntary screening reduces resistance by emphasizing that people who come voluntarily for screening are more likely to accept diagnosis and follow through with recommended treatment. It added that this is particularly important for TB and HIV, which are prone to stigmatization and may face resistance from individuals who fear

negative consequences. It was noted that individuals who come voluntarily for screening are more likely to adhere to treatment and clinic appointments, which are important considerations for TB and HIV, since adherence is critical to the success of treatment and prevention of disease transmission.

> The benefit of voluntary screening is that you will not meet resistance, supposing this person is having, is diagnosed with TB, remember this is somebody who came voluntarily, so taking medication will not be a problem with him…Then this is somebody who came voluntarily for HIV testing, so adherence to treatment, adherence to clinics will not have a big challenge with these kinds of people. Then it also gives us an easier time of not mobilizing people from the community to come for the test, there are people who are coming willingly. [KI870178]

> Voluntary screening is important because one, there will not be stigma because someone has come willingly to be screened for TB and HIV and then it will be easier to start treatment on time. [KI870179]

5.2 Positive impact of community-level health promotion

Participants informed that the information being disseminated at the community level has a positive impact on community health seeking behaviour and early identification of TB and HIV. Majority also reported that schools play an important role in educating young people about TB, HIV, and sexual issues, however, they also reported that young people are mostly concerned about pregnancy than sexually transmitted diseases.

> So what happens, in schools we have health clubs both in primary and secondary schools and we have school health programs. So that is where we get an opportunity to talk to them about HIV; to talk to them about TB and sexual issues. But also in their curriculum, they are taught about HIV, they are taught about TB in their curriculum but unfortunately our young people are scared of pregnancies more than HIV. [KI870179]

> One, it reduces the rate at which the two are being transmitted to different people. Again, it helps an individual to live a positive life because he or she is aware that there is a life after contracting HIV or contracting TB. So it will enable an individual to live a positive life and again it will enhance a lot of wisdom and knowledge to different people in the society. [KI870177]

> The impact of the information being given at the community level, one, it helps with issues of behaviour change both for TB and HIV infections. It helps with issues of early screening; it improves the people's health seeking behavior. And it also just gives general information for early identification of HIV or TB. And also, it helps with community to know the causes and how to prevent HIV and TB. [KI870179

5.3 Impact of the disease on community's social and economic health

According to the workshop findings, majority of the participants understood the severity of being infected with either TB, HIV or both. Participants explained that TB and HIV have

devastating consequences for both infected individuals and their families. However, they agree that much need to be done to combat social and economic consequences of the mentioned diseases.

> For people with TB and HIV, most of the time when they get a bit sick, they are unable to fend for their families, they are unable to maybe go to work and get food for their families. So that brings poverty to the households and then there are issues of food insecurity. Most of them are not able to access good food and you see, when they are taking the TB and HIV drugs, they need to eat well. So at times when they are unable to access food properly, it causes a lot of social issues in the community. [KI870179]

Informants reported that stigmatization is the biggest barrier for TB and HIV prevention and treatment. The misconception associated with TB and HIV were found to discourage people from going for voluntary screening.

> But also, we have issues of stigma, both HIV and TB have stigma issues. Everybody thinks that if you have TB, you must have HIV. So they'd rather not go for the screening. So it is not necessarily the distance, but it is the behavior and the myths that have been spread in the community. [KI870179]

The findings showed that the consequences of the diseases led to its spread or transmission, deterioration of life, stigma, medication defaulting, drug resistance, under-5 children malnourished and death. These were the major outcomes of HIV and TB on health. The social-economic consequences included isolation due to either stigma or prevention of bacteria spreading and not being able to work and be productive leading to poverty.

> The consequences to a person who has been affected by AIDS or the TB is that it will deteriorate their life and they will not work as much as when they were healthy and also the disease will spread to other members of the society whom they live with or come into contact with. [KI870173]

> So, TB, when a person has TB and not taking drugs correctly, it can lead to multi-drug resistant TB which may take too long to cure and when somebody has HIV and it is not managed properly, not taking drugs, the person will spread HIV and again it advances to AIDS and at that stage managing it is difficult. [KI870174]

> Economic consequences, the economic status of that person will be poor because if he was the breadwinner of the family, there is no way he will go to look for money or look for a job so that he can support the family and in that state people in that house will mostly be malnourished especially the under-five years of age. And again, children will not go to school, will not have enough food. [KI870174]

> Most of these consequences are, it would make this patients discontinuation of medication. It can cause TB resistance and HIV also, it can make these patients maybe even die because if they don't get their medication well, because you find that others complain about transport, also others will fall into malnutrition because they don't have money to buy these foods. So it can cause deaths or resistance. [KI870175]

5.4 Motivation, cues to action and cultural relevance of health education in schools

According to the findings, majority of the participants were motivated in protecting themselves due to awareness creation whereby they acquired knowledge on TB/HIV prevention actions. These were done through health talks, community meetings known as *barazas*, dialogues and distribution of flyers. Community health workers/CHVs or health promotion officers were majorly involved in spreading awareness in the community. Other preventive measures were ensuring houses had enough ventilation, covering of mouth when coughing and HIV testing before marriage. Fear of death was seen to be among the motivational ways of preventing themselves especially after they witness other members suffering and end up dying due to the diseases.

> What we can control, or we can protect the community or the individual or the family on contracting HIV and Tuberculosis is to ensure that they get broader knowledge on the prevention of the HIV and also Tuberculosis [KI870173]

> What encourages them is that they will reduce expenses whereby they don't use a lot of money on medication. They will also be able to be in that kind of, now, their daily chores, they will be able to work instead of finding somebody being bedridden. They will be able to feed their families. They will be able even to educate their children because they will go their work and maybe get money to pay the school fees. And also, they will live healthy, the way I had said earlier. [KI870175]

> Yes, we interact with the community, we do health education, and we do in barazas when we have dialogue days. We can always tell people about HIV and we can also, at times we also have flyers. If partners bring flyers to inform people, we also distribute. We also have, in schools, we can also go round doing something called school health talks, so the children in school from early age, they know about prevention of HIV and also about TB. [KI870176]

> Number one, with HIV, there is, an individual is supposed to abstain from unprotected sex. And again, be aware to handle himself or herself whenever he or she is living with someone who is infected already. And with TB there is always taking good care of the environment; that is when you are in a room, you have to ensure that the rooms are free and open. [KI870177]

It was reported that health promotion majorly equipped the communities with knowledge on prevention, adherence to TB and HIV and issues related to behaviour change. The communities were able to have knowledge they can access the available drugs and vaccines; this was done through health talks that led to low stigmatization and early screening of the diseases. Health promotion activities were also practiced in schools through health talks in school health clubs and groups. Matters on HIV and TB are integrated in primary and secondary schools' curriculum hence being taught in class, hence creating awareness.

> We also ensure that we give them health education for their families and also the patients on the HIV and the Tuberculosis. We also ensure that the tools which are needed for the screening are available in all various departments of the health facilities. [KI870173]

The result indicated that death of a close family member or close friend is a key motivation for behaviour change, however, they added that these changes may not be sustained over time due to risky behaviours that individuals engage in despite knowing the modes of transmission for TB and HIV. As a result, the use of community health volunteers (CHVs) was suggested as an important means for sharing information on the importance of screening and adherence to treatment for TB and HIV.

> What informs individuals is maybe if they see somebody whom they knew very well have died, they will try to protect themselves, they will try but with time it will be overtaken by events, they will still go back to poor coughing techniques, they will still go back to crowding, they will still not make their houses with proper windows. So for HIV, we all know that transmission is majorly through sexual intercourse but you will find that we still engage in risky behaviour. So somebody dies, people will say, like in Luo they will say that dhiang thoo gi lum e dhoge. The price of careless living is death. You will not mind. Let what comes come. [KI870178]

> So I will still say that we also use our CHVs to pass the information to the community members on the importance of screening; importance of going to the facility; adherence to treatment in case you are found to be HIV positive or having TB. [KI870178]

> I think it is the information. If they have the information, if they have the knowledge, they can be able to protect themselves against HIV and against TB. [KI870179]

> TB prevention is like creating awareness; ensuring that the households have good ventilation in the house; they are told that when you are coughing you must cover your mouth and then in the health facilities or the small dispensaries, they have what we call cough areas where when a patient is coughing, at least it is good for them to go and, it is under a tree, it is an open space. [KI870179]

> The schools teach about sexuality but not as much. So as a parent you have to really be open with your child. But unfortunately, few parents are trying. But where we come from, even right now, even our churches, if you talk about sex, they will look at it as a bad thing. Nobody wants to talk about it. [KI870179]

5.5 How health facility's location impact community's health seeking behaviour.

Health facilities' location and distance was seen as a major factor when it came to HIV and TB prevention and treatment. It's led to a bigger challenge when the health facilities are far and needed one to travel to access them. Most of the community members being poor majority were seen not able to raise fare to access the facilities hence ending up not seeking medication or diagnosed and even defaulting for those who are under treatment. However, outreaches are usually done in the community to ensure HIV/TB prevention and treatment, community health volunteers do their screening during household visits thus minimizes the frequent visits to the health facilities.

> According to our health facilities, the distance is not long for the patients, but I can see that they are coming for screening and also testing and we as the linked assistants we try to support Tuberculosis case management in the communities by identifying the coughers and tracking them to early diagnosis. [KI870173]

> Surely it affects because you will find that, especially in Kenya, the topography or how the land is, you find that others are coming from down the mountains or hills so you will find that they don't have fare to go for medication and you will find that they are very much affected. [KI870175]

Majority agreed that even though the mode of transmission of TB and HIV are different, people who have limited access to health information are at higher risk of getting the disease. These were attributed to factors such as proximity to health clinics, congestion, and lack of proper ventilation in the homes and stigmatization. The results highlighted challenges faced by individuals who live far from health facilities including the involved cost of transport transportation and difficulty in accessing health services.

> So you will find that having these health centers nearer, it really helps those people to get their medication as soon as possible and it will also prevent them from defaulting on medication. [KI870175]

> When a health facility, the distance is far from the community, then one will not be able to go for early screening because the involvement of maybe using fare to reach the health facility, maybe this person is from a poor background they are not able to raise money for transport to go to the facility. [KI870176]

> Yeah at times we do something called outreaches. So when we go for our outreaches, people, we are able to screen people for TB and then we do referral appropriately. And also at the outreaches, we can also do HIV testing and then people are referred. [KI870176]

> It may affect the community due to the fact that when you are far from the facility and you are not in a position of getting maybe means to reach the facility, this one will not provide the exact number of those who are infected and again you will find that many people will be suffering in the community, and they are not reached by the health workers. [KI870177]

> What we are trying to do, and what I think should be done, somebody coming from their house walking to a facility for screening is difficult, that one let us put it right. So we want to major on our community health volunteers to do the screening. Every time they go for household visits, can they screen a person in that house, so that one will reduce our clients from saying that it is a distance from their household to the health facility; so we want it brought to them as nearer as possible. [KI870178]

> Yes, the facilities should be closer to the community and then our communities need reminders and reminders and reminders. Let us use our health promotion officers to remind them to go to the facilities. As much as the facility is far away, they should also create time for themselves to go for the TB screening. [KI870178]

5.6 Considered benefits of available HIV/TB prevention and treatment for the community

Availability of HIV/TB prevention and treatment options as perceived by the community has led to reduction of death, minimal/no risk of malnutrition, the transmission of diseases and poverty which will lead to economic and social growth due to a healthy community. The community is able to access the drugs such the prophylaxis and TPT hence major reduction on transfer of the HIV and tuberculosis diseases.

> Yeah, for example when we are at the health facilities, we have been given what we call as Niacin prophylaxis for those people who are IPT. And those people who are also HIV positive are also being given Isoniacin prophylaxis to prevent them from getting TB. And for the healthcare who are in the health facilities, we have been given Isoniacin to protect us for at least weeks. We have been taking the drugs for thirteen weeks, every week we are taking one-one until thirteen weeks. [KI870173]

> For HIV prevention, we have PEP, Post Exposure Prophylaxis that you take after you are probably raped. And then we have PREP, mostly the people who are discordant couple, they take to prevent themselves from HIV. And then on TB we have TPT; that medicine helps those who have been screened for TB and are negative. They can be given if they have contact with TB patients. They are given so that they can prevent themselves from contacting TB. [KI870174]

> It is really very much important because most of these people are contacts and maybe they don't know. You might find that somebody is involved in sexual activities, and they don't know the status of the partner or the person they are involved in sex with. So it is very much good for the person because whether you will do what, you are always protected. [KI870175]

> Also, TB, you find that one, latent TB, no one knows that this person is TB infected but if I am vaccinated, I am protected because even if I meet you and you are a TB person, I am protected from being infected. It is very much important. [KI870175]

Workshop participants recognised the many benefits of health promotion as an effective way for disease prevention and control. They further elaborated that sharing of information can have positive and long-lasting impact for the community. It was further reported that the benefits of recommended actions outweigh the burden of disease when a bread winner in the family get sick, which might disrupt children education and can result to lose of income for the family. Health promotion workshop was identified as an important means for minimising the mortality rate from TB and HIV and for changing communities' health seeking habits. Experiences when a loved one dies from the disease and availability of preventive measures were found to encourage cues to action.

> I have a reason because everybody, we should all be healthy. We are not supposed to be infected with the burden of now, because it is a burden because when one family member is sick and maybe he was the breadwinner, then the children might not go to school, they might not get enough to feed themselves. So, yes. [KI870176]

> The major reason for that is to minimize or reduce the death rates that is caused by the two diseases and again when we do so, you will find that economically also, we will grow because we will be a healthy nation. [KI870177]

> Because most of these diseases lower the immune system of an individual. So it is just safe for them to prevent themselves from getting HIV and from getting TB so that at least people are healthy. And then to reduce the transmission amongst the population because even now our transmission rates are amongst the youth and married couples. [KI870179]

5.7 Knowledge about the causes of HIV and TB

According to the findings the participants had knowledge of the causes of HIV and tuberculosis. They stated that tuberculosis is caused by microorganism bacteria known as Mycobacterium tuberculosis and it majorly affects the pulmonary section and through coughing, the droplets are carried by air hence end up spreading. However, one felt the TB could not be droplet transmitted. It was further explained that HIV transmission majorly occurs through sexual intercourse, mother to child through breast feeding and a few felt it is a disease that originated from the monkey and got into human beings.

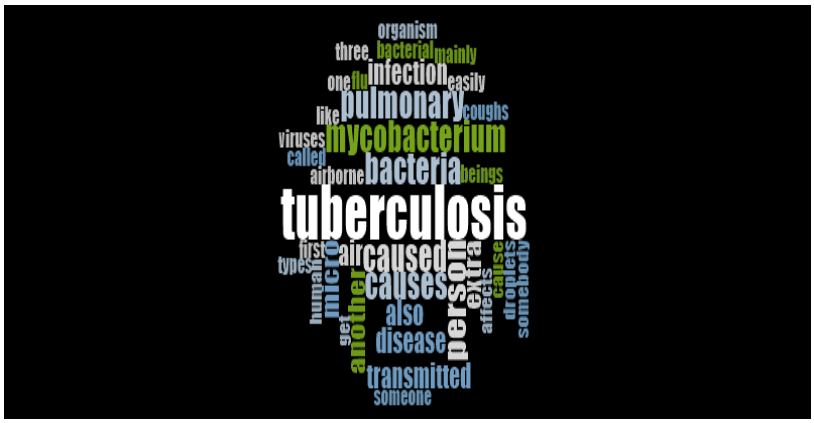

Figure 3: A word cloud showing frequency of TB causes mentioned.

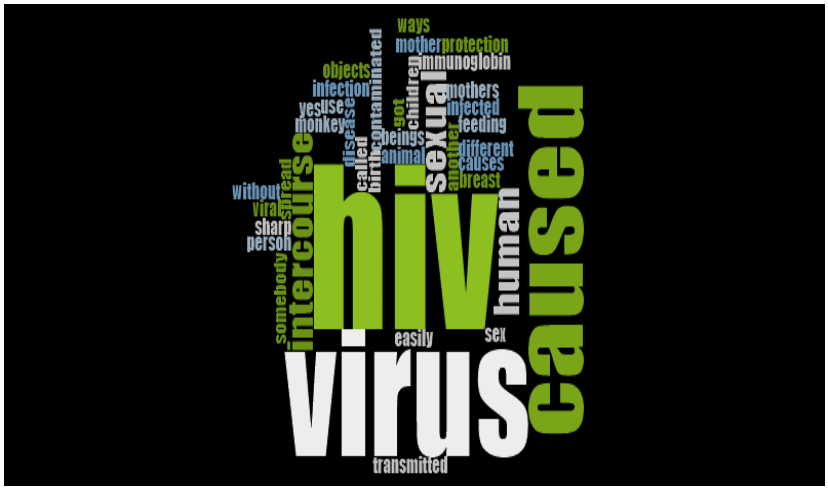

Figure 4: A word cloud showing frequency of HIV causes mentioned

> The first cause of TB infection in human beings is a bacteria called Mycobacterium Tuberculosis and it affects mainly, we have three types of the TB. We have pulmonary Tuberculosis. We have also Extra-pulmonary Tuberculosis, and we have also Extra-pulmonary Tuberculosis. [KI870173]

> TB is caused by a micro-organism, Mycobacterium Tuberculosis. And when a person has those viruses, when she coughs in the air, it can get to another person easily when somebody has TB. [KI870174]

Some informants described TB as a flu-like illness that is transmitted through the air which contradicts scientific definition about the specific cause and transmission of TB. Even though, TB can cause flu-like symptoms, it is caused by Mycobacterium tuberculosis and primarily transmitted through the air when an infected person coughs or sneezes which was correctly stated by majority of informants.

> TB is a flu transmitted through the air. It is like an airborne disease. [KI870177]

> HIV is caused through sexual intercourse; if you use contaminated sharp objects and from mothers to children through breast feeding or through birth if the mother is infected. [KI870179]

> When someone has TB and it cannot be transmitted from one person to another through droplets. [KI870179]

> And then HIV is caused by an animal, monkey and it got into human beings when somebody has HIV, and they have sex without protection. It can easily spread to another person. [KI870174]

6 Discussion

The community members had various opinions on what they felt could be done to ensure a better health promotion and health seeking behaviours on prevention and treatment of HIV and TB e.g., the importance of screening, adherence to treatment, male involvement when the pregnant partner is going for testing and regular community outreaches. Informants emphasized that people in informal settlements are at higher risk of getting infected because they mostly lack access to important information about TB and HIV, they gave example of pregnant women and their husbands not getting tested to highlight the seriousness of the problem.

Parents are not having open discussion with their children about sexual issues because culturally, it is considered as a taboo not to talk about sex issues with children. Therefore, the importance of sex education between parents and their children was mentioned as an important means for preventing infectious diseases and unwanted pregnancies in teenagers.

Community members might prefer traditional remedies to medical treatment, and seeking alternative treatments was attributed to cultural and spiritual reasons. Majority also highlighted the importance of seeking spiritual remedy when someone is sick. Additionally, they informed that cultural insensitivity makes the community far from the knowledge of TB, HIV and HIV co-infection, so it needs more health promotion and health education in the community. Hence, when health promotion is given to the community, the promoter should know that it also requires a commitment from healthcare providers to be responsive to the community's cultural sensitivities. Understanding the different cues in the health care settings will help to improve patient satisfaction and health care outcomes.

Results indicated that majority of informants had a good knowledge about TB and HIV prevention and treatments measures. However, they highlighted the need for good infrastructure and close proximity of health care services at community level. Overall, results indicated the need for more health promotion and education especially at the community level.

The workshop highlighted potential barriers to testing and the need for increasing health education and awareness. The importance of testing, screening and different prevention strategies were also emphasized. It also highlighted the significance of combining traditional and spiritual practices with modern treatment regiments as an effective way of addressing health concerns.

Despite several challenges for TB and HIV prevention and treatment, the government and other organizations efforts in combating TB and HIV were acknowledged. Finally, workshop discussion and interview results revealed disparities in health care distribution within Kisumu

due to poor infrastructure in some areas and proximity to health care centres.

Discussions during the workshop revealed the important role played by Community Health Volunteers to reach underserved communities, which has become a valuable nexus between community and the formal health system. The need to allocate more resources was recommended, particularly for the training of culturally versed community health care volunteers in underserved communities, especially in the rural areas where most of the population resides.

6.1 Ethical issues and legal considerations

The project adhered to the guidelines of Ethical Principals of Research with Human Participants and The Human Sciences Ethics Review published by TENK 2021. Ethics is fundamental in research, and it cuts across all societies, regardless of where research is implemented. Ethical approval must be obtained before commencing research involving human participants if needed. Ethical review is done in six different research cases: in research when deviation from informed consent, an intervention in the physical integrity, the subjects are children, strong stimuli, mental harm, and a security risk. (TENK 2021.) The project plan outlined characteristics of participants for the workshop and data collection methods. The project partner from Kenya (COHESU) assisted with the application for health promotion permits (Appendix 7.) from relevant bodies, according to guidelines local guidelines and there was also supporting letter obtained from the head of Masters of Global health and Crisis management from Laurea University of Applied Science.

According to TENK (2021) personal information must be managed with care. Research participants must always be informed of the nature of the research. The purpose of ethical review is to evaluate the ethical risks that the research design might have. As part of ethical requirements, study participants were given participant's information sheet as well as agreement forms before commencing of the workshop and interviews. (TENK 2021.)
The study participants were selected using a model that excluded vulnerable group and the need for translation of workshop materials from English to local languages, since key informants' official working languages included English. And in keeping with the promise of anonymity of participants, the agreement sheet only requires participants to indicate their willingness to take part by marking agree without any further personal information, participants were also informed about their right to discontinue with interviews in case of any discomfort or embarrassing feeling during the interview. According to ethical guidelines, participants are free to withdraw their consent without giving reason or facing consequences. (TENK,2021). Informants remained anonymous throughout the study and no personal information was collected as was promised in the data collection and management plan.

The European Code of Conduct for Research Integrity (2017, 8) defines research misconducts and other unethical practises like fabrication and falsification. Making up results and recording them as real as well as manipulating materials or processes without justification as research misconducts. Plagiarism is using other people's work and ideas without giving proper credit to the original source, thus violating the rights of the original author(s) to their/ intellectual outputs.

6.2 Study limitations and strengths

This was a small health promotion workshop that was limited to Kisumu east-sub county with a small number of selected key informants representing community health workers and service deliverers. The study strength lies in the ability to generalise the results in other counties with high incidences of TB and HIV co-infections. The opinions of key informants can be utilised by policy experts in developing interventions that can be applied in a larger context. The project did not receive any external funding, there were no conflict of interests.

6.3 Establishing trustworthiness

According to Guba & Lincoln (1985), the basic issue in relation to trustworthiness is the ability of authors to persuade the audience that the findings of the research are worth paying attention to, and worth taking account of, therefore, enhancing the trustworthiness of the study assist authors in ensuring that the findings are rigorous, accurate and useful. Trustworthiness simply refers to the degree of which the findings of a study can be considered credible, transferable, dependable, and confirmable (Guba & Lincoln 1985). The project model was based on Health Belief which has been used before as a determinant for identifying persons for TB screening and participation in other programs to detect and prevent diseases.

6.3.1 Credibility

Post workshop interviews were piloted through Microsoft teams meeting with a group of health care professionals who share some characteristics with key informants. Participants had the opportunity to scrutinize interview questions and share their suggestions on areas which needed refining. Piloting gave the authors an opportunity to verify that data collection methods truly reflect the target group for the study. Guba and Lincoln (1985) define

credibility as the degree to which the findings accurately reflect experience and perspectives of the participants.

6.3.2 Transferability

Participants for the study were chosen through a well-defined inclusion and exclusion procedure. The key informants for the project were recruited through purposeful sampling with the goal of selecting participants who have experience and perspectives considered relevant to the research question. Key informants reflected the population targeted by the study, which can help in enhancing the transferability of the findings. Transferability has been defined as the extent to which the findings can be generalized to other context or settings (Guba & Lincoln 1985).

6.3.3 Dependability

The project went through rigorous project plan presentation to fellow students and supervisors before commencing the actual workshop and data collection. Detailed records of the thesis project process including raw data, analysis and interpretation has been explained to help enhance the dependability of the findings. Dependability refers to the stability and consistency of the findings overtime. (Guba & Lincoln 1985).

6.3.4 Confirmability

Confirmability is the extent to which the authors biases and assumptions shaped the findings. The process of data analysis involved the six steps in thematic analysis as described in chapter 5.7, which assist in addressing the biases and assumptions by the author, the thesis process was also subjected to plan presentation and piloting of interview questionnaires hence enhancing the confirmability of the findings. (Guba & Lincoln 1985.)

7 Conclusions

The health promotion and education programs are an important tool for exchanging information between the HIV and TB control projects as well as immunization campaigns. The health promotion workshop in Kisumu East Sub- County aimed to culturally find relevance ways for TB and HIV-coinfection prevention and treatment. The project plan started in

autumn 2022, with suggestion of the topic, topic analysis and plan presentation, and the execution was done in the spring of 2023 in Kisumu East Sub-County Kenya in partnership with a local NGO. Open-ended interviews with key informants selected through exclusion and inclusion criteria was the main data collection method for the project. All the authors in the project managed to travel to Kisumu for the implementation of the project. The workshop highlighted the need to allocate more funding to underserved communities, especially in the rural areas where majority of the population resides. Workshop attendance recognised the role that health promotion plays in promoting disease prevention and treatment, and the need to fund and train more community health volunteers which has gained recognition in recent years in Kenya (Lusambili et al. 2021).

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Figures

Tables

Appendices

Appendix 1: Participant consent form

Title of the study: Culturally Sensitive Ways to Increase Awareness and Improve Health-seeking Behaviour;
Health promotion project for TB and HIV co-infection in Kisumu -Kenya

Location of the study: Kisumu East Sub- County, Kenya

Student
Name: Chernet Medhanit

Student
Name: Pietilä Milka

Student
Name: Riako Gabriel

Supervisors
Name: Aholaakko Teija-Kaisa

Name: Haverinen-Mottaghi Elsi

I have been invited to participate in the health promotion workshop for TB, HIV co-infection and vaccination. This health promotion workshop intends to identify culturally sensitive way of increasing awareness and improving health seeking behaviour for the two mentioned infections in Kisumu County. After the workshop, opinions about health seeking behaviour of the small group of key informants attending the workshop will be sought using a short interview. The responses obtained from the interviews of participants attending the workshop will be used to compile a report which will eventually form a master's thesis of the students. After the workshop semi-structured tools will be used for interviewing the key informants. Participation in this workshop is anonymous, therefore no personal data such as address, name, signature, age, etc. will not be recorded. The interviews will be recorded on a secured school recording machine, which can only be accessed by master students, the data will be deleted from the recorder after the analysis and publication in the Theseus.
The information sheet has provided me sufficient information about above study, the purpose and execution of the study, about my rights as well as about the benefits and risks involved in

it. I have had the opportunity to ask questions about the study and have had these answered satisfactorily.

I have had sufficient information of the collection, processing, and transfer of data during the study and the information that this study will only collect data anonymously.

I voluntarily agree to participate in this study. I have not been pressurized or persuaded into participation.

I have had enough time to consider my participation in the study.

I understand that my participation is entirely voluntary and that I am free to withdraw my consent at any time, without giving any reason. Any answers to interviews from me before my withdrawal can be included for compiling a report which will eventually form a master's thesis for the students. Participation in this study is entirely anonymous.

By indicating that I agree with this form I confirm my voluntary participation in the study.

Date

The collection of data will be completely anonymously, therefore no information about participants will be kept. However, copy of acceptance to participate in the project will be kept by the students.

Appendix 2: Participant information sheet

Study title: Health promotion project Maliza TB for TB and HIV co-infection in Kenya.

We wish to invite you to participate in the implementation of a health promotion intervention workshop for TB, HIV co-infection and vaccination. This health promotion workshop intends to find culturally relevant ways of creating awareness and improve on health seeking behaviour for the two mentioned infections in Kisumu County. From the workshop, opinions of a small group of key informants from the community members and service deliverers (Health care workers and opinion leaders) attending the workshop will be sought through interviews. The responses obtained from the participants attending the workshop will be subjected to thematic analysis and used to compile a report which will eventually form a master's thesis of the students. The workshop will employ semi structured questionnaire which has been constructed according to the relevant health promotion model with the aim of answering to the project objectives.
Participants for this workshop has been chosen according to an inclusion and exclusion criteria created by the master's students. The expected number of participants will be approximately 12 who met the inclusion criteria.

For the safety reasons we recommend that only healthy participant (no flu like symptoms) come to the workshop. The safety of the participants is important. Wearing a mask is not mandatory but you are free to wear a mask for own personal protection.
This information sheet describes the study and your role in it. Before you decide, it is important that you understand why the study is being done and what it would involve for you. Please take time to read this information and discuss it with organisers of the workshop if You wish. If there is anything that is not clear, or if You would like more information, please ask. After that you will be asked to mark "Agree" to indicate your willingness to take part in the workshop and the interview or "Disagree" to indicate that you are not willing to take part in the study.

Voluntary nature of participation

The participation in this health promotion and education is voluntary. You can withdraw from the health education at any time without giving any reason and there will be no negative consequences for withdrawing from the health promotion and education. If You withdraw from the health promotion or withdraw your agreement, any data collected from you before

the withdrawal can be included as part of the health promotion and education data, it is important to note that participation is completely anonymous.

Purpose of the study

This health promotion project is to identify culturally relevant ways of increasing awareness for Tb, HIV co-infection and possible prevention measures as well as treatment possibilities through health education in Kenya. The planned health promotion project utilizes Health Belief Model which has the potential to improve community`s health seeking and prevention behaviour, as well as finding solutions to possible barriers to taking action.

Who is organising and funding the research?

The Masters of Global health and crisis Management Students from Laurea University of Applied sciences in partnership with a local NGO is planning for a Health and Education workshop on creation and promotion of health seeking behaviour for HIV and TB infections, between Februarys to March 2023 in **Kisumu West, Kenya.** The planned health promotion and education is being funded by master's students. However, the student has applied for a small grant from Laurea University of Applied sciences for a short-term exchange program. The budget for the planned health promotion can be found in the (Appendix 7.).

What will the participation involve?

This health promotion workshop does not intend to collect personal data such as names, diagnosis, health conditions, video or pictures that reveal participants faces and addresses. The opinions about health seeking behaviour will be sought by using a short anonymous interview questionnaire. This health promotion and education is a one-day workshop in Kisumu County and is approximated to last 2-4 hours. There is no follow-up study after the health promotion education and the interview.

Possible benefits of taking part

The workshop participants will take part in a free health promotion education. Participation in a health promotion workshop can also improve awareness and knowledge about TB and HIV which continues to be a leading public health and development problem. Improving these has the potential to reduce the possible risk of contacting the two mentioned infections.

Possible disadvantages and risks of taking part

The is no foreseeable risk which has been observed for participating in the workshop.

Financial information

Participation in this study will involve no cost to you. Participants will receive no payment for participating in the workshop. However, participants may get travel reimbursement depending on the distance from the workshop location. Additionally, there will be some healthy snacks and soft drinks for workshop participants. This project is not receiving any fundings from any organization.

Informing about the research results

Collected data will form part of the master's thesis report for the students. The final report will be published in the Theseus, which is primarily available on the internet, in case of restricted access then master's students will share a summarized report through provided contact information. However, the report will not contain participants' information or any data that is perceived sensitive due to the anonymous recruitment of the participants and anonymous data collection.

Termination of the study

The master's Students conducting the study can also terminate the project if the participants and or master's students' personal health is directly or indirectly at risk.

Further information

Further information related to the study can be requested using the contact details below.

Contact details:

Student
Name: Chernet Medhanit

Student
Name: Pietilä Milka

Student
Name: Riako Gabriel

Supervisors

Name: Aholaakko Teija-Kaisa

Name: Haverinen-Mottaghi Elsi

Appendix 3: Interview Questionnaire for community Healthcare representatives

Interview Questionnaire
What are the main causes of TB and HIV? Kindly share the benefit of voluntary screening for TB and HIV test.
What are the health, social and economic consequences or complications of TB or and HIV infections on infected individuals?
The impact of health promotion education on knowledge and awareness creation on TB and HIV infections and available vaccinations on the HIV and TB infections.
What informs individual actions to protect themselves and community from contracting TB and HIV infections?
How does the location and distance to Tuberculosis screening centres affect the community´s health seeking habits? Explain some of the TB and HIV prevention and treatment regimen which are perceived to be relevant in your community?
Do you have a burning reason why you think it is important for the citizens to take preventive and treatment measures against TB and HIV? Kindly explain your answer
Feedback from the workshop. Pros and cons. What did you like and how would you improve the workshop? Would you recommend workshop for a friends?

Appendix 4: Timetable

DATE	ACTION
9.2.2022	Thesis Topic Analysis
11.2.2023	Thesis plan presentation
2/2023	Apply permissions (Finland and Kenya), ethical approvals N/A
2/2023	Permissions ready
2–3/2023	Travel and workshop in Kenya
3-4/2023	Analysing of the data
5/2023	Thesis report + presentation

Appendix 5: Project budget

RESOURCE	COST
Accommodation 2 weeks in Kenya for all Master´s students	1000 € = 1000 €
Transport: air tickets HEL-NAI Buss/car VISA fee	1000 € x2= 2000 € 150 € x 3 = 450 € 59 € x 1 = 59 €
Living costs for 2 weeks (foods, water)	600 €
Workshop materials + food/snacks/water + Transport reimbursement for the key informants	500 €
Workshop (working hours on the field)	15 € x 5 h x 3 = 225 €
Other expenses + permission	500 € +
TOTAL	5334 €

LAUREA HIV AND TB INFECTIONS WORKSHOP. FEBRUARY 27,2023

VENUE: GITA HEALTH FACILITY, KISUMU EAST

Appendix 6: Workshop timetable

Time	Agenda Topic	Activity	Facilitator
Monday			
14:15 - 14:30	Refreshments Preparation of Training materials	Arrival of Facilitators	Ms. Winnie
14:35 - 14:50	Seating	Arrival of Key informants	Ms. Winnie
15:00 - 15:10	MOH Kisumu East	Welcome Remarks	Dr. Benard
15:10 – 15:20	Introductions	Getting to know each other	Ms.Winnie
15:20 – 15:30	LAUREA TEAM	Workshop objectives	Gabriel/Medhanit/Mil
15:30 – 16:20	Project Overview LAUREA TEAM	HIV and TB infections, Study ethics Participant Recruitment etc.	Gabriel/Medhanit/Mil
16:20 - 16:25	BREAK	BREAK	BREAK
16:25 – 17:30	INTERVIEWS	-Consenting process: properly done	Gabriel

		-actual interviews	Medhanit Milka
17:35 - 17:40	OVERAL REVIEW	Vote of thanks	Gabriel, Medhanit Milka
	Reimbursements	-Transport reimbursement to key informants -Key informants leave for home	Dr. Bernard
	END OF DAY 1		

Appendix 7: Approval permit from Director of Public Health and Sanitation Kisumu County (Signature removed)

REPUBLIC OF KENYA

COUNTY GOVERNMENT OF KISUMU

Telegrams: "PRO (MED)"
Tel: 254-057-2020105
Fax: 254-057-2023176
E-mail: kisumucdh@gmail.com

Director of Public Health & Sanitation
P.O. Box 721 – 40100,
Kisumu.

DEPARTMENT OF MEDICAL SERVICES, PUBLIC HEALTH & SANITATION

Our Ref: GN 133 VOL.XIII /36)

Date: 21st February, 2023

To:

The Project Manager,
COHESU,
P. O. Box 2956 -40100,
Kisumu.

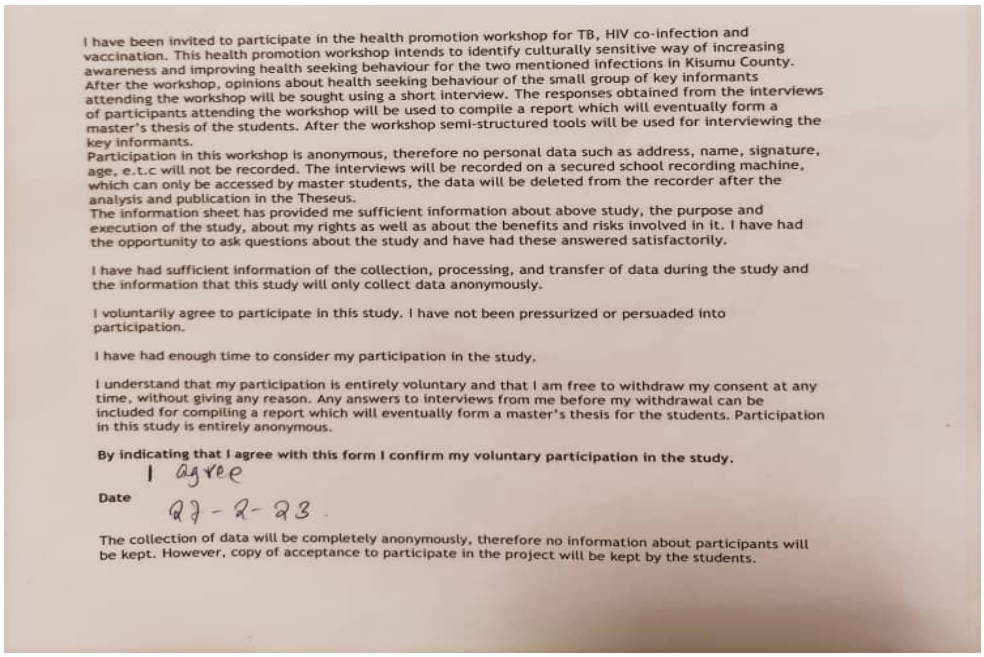
Email: Info@cohesu.org

Re: **Health Seeking Behavior for HIV& TB Services**

The purpose of this letter is to inform you that your request to organize and conduct Health Promotion Workshop in Kisumu East Sub-County COHESU in partnership with Students from Laurea University of Applied Sciences has been approved.

We expect that the health promotion workshop will increase awareness for TB, HIV co-infection the possible prevention measures as well as early treatment interventions in Kisumu East and the entire County. You are to report to the Kisumu East Sub County Medical Officer of Health for further guidance.

Appendix 8: Sample of consented form (Sensitive information removed)



I have been invited to participate in the health promotion workshop for TB, HIV co-infection and vaccination. This health promotion workshop intends to identify culturally sensitive way of increasing awareness and improving health seeking behaviour for the two mentioned infections in Kisumu County. After the workshop, opinions about health seeking behaviour of the small group of key informants attending the workshop will be sought using a short interview. The responses obtained from the interviews of participants attending the workshop will be used to compile a report which will eventually form a master's thesis of the students. After the workshop semi-structured tools will be used for interviewing the key informants.
Participation in this workshop is anonymous, therefore no personal data such as address, name, signature, age, e.t.c will not be recorded. The interviews will be recorded on a secured school recording machine, which can only be accessed by master students, the data will be deleted from the recorder after the analysis and publication in the Theseus.
The information sheet has provided me sufficient information about above study, the purpose and execution of the study, about my rights as well as about the benefits and risks involved in it. I have had the opportunity to ask questions about the study and have had these answered satisfactorily.

I have had sufficient information of the collection, processing, and transfer of data during the study and the information that this study will only collect data anonymously.

I voluntarily agree to participate in this study. I have not been pressurized or persuaded into participation.

I have had enough time to consider my participation in the study.

I understand that my participation is entirely voluntary and that I am free to withdraw my consent at any time, without giving any reason. Any answers to interviews from me before my withdrawal can be included for compiling a report which will eventually form a master's thesis for the students. Participation in this study is entirely anonymous.

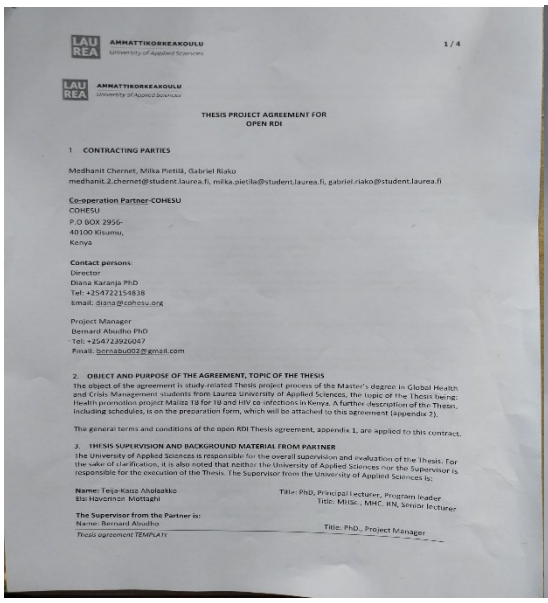
By indicating that I agree with this form I confirm my voluntary participation in the study.

I agree

Date 27-2-23

The collection of data will be completely anonymously, therefore no information about participants will be kept. However, copy of acceptance to participate in the project will be kept by the students.

Appendix 9: Thesis project agreement for open RDI (Sensitive information removed)



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THESIS PROJECT AGREEMENT FOR OPEN RDI

1 CONTRACTING PARTIES

Medhanit Chernet, Milka Pietilä, Gabriel Riako
medhanit.2.chernet@student.laurea.fi, milka.pietila@student.laurea.fi, gabriel.riako@student.laurea.fi

Co-operation Partner-COHESU
COHESU
P.O BOX 2956-
40100 Kisumu,
Kenya

Contact persons:
Director
Diana Karanja PhD
Tel: +25472215838
Email: diana@cohesu.org

Project Manager
Bernard Abudho PhD
Tel: +254723926047
Email: bernabu002@gmail.com

2. OBJECT AND PURPOSE OF THE AGREEMENT, TOPIC OF THE THESIS
The object of the agreement is study related Thesis project process of the Master's degree in Global Health and Crisis Management students from Laurea University of Applied Sciences, the topic of the Thesis being: Health promotion project Maliza 18 for 18 and HIV co-infections in Kenya. A further description of the Thesis, including schedules, is on the preparation form, which will be attached to this agreement (appendix 2).

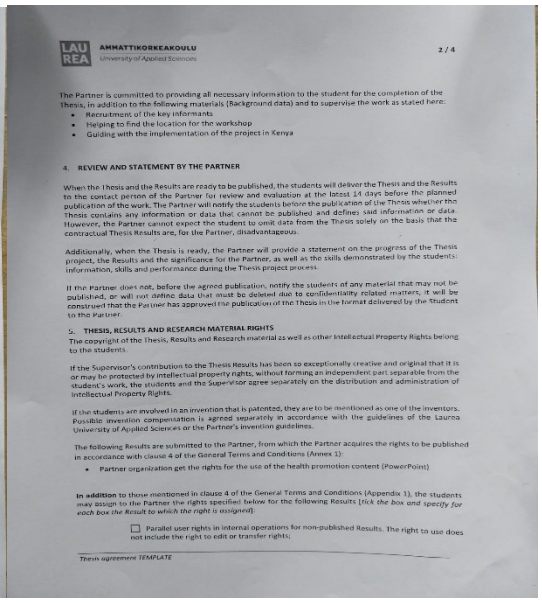
The general terms and conditions of the open RDI Thesis agreement, appendix 1, are applied to this contract.

3. THESIS SUPERVISION AND BACKGROUND MATERIAL FROM PARTNER
The University of Applied Sciences is responsible for the overall supervision and evaluation of the Thesis. For the sake of clarification, it is also noted that neither the University of Applied Sciences nor the Supervisor is responsible for the execution of the Thesis. The Supervisor from the University of Applied Sciences is:

Name: Teija-Kaisa Aholaakko — Title: PhD, Principal Lecturer, Program leader
Elsi Havorinen Mottaghi — Title: MHC, RN, Senior lecturer

The Supervisor from the Partner is:
Name: Bernard Abudho — Title: PhD., Project Manager

Thesis agreement TEMPLATE



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The Partner is committed to providing all necessary information to the student for the completion of the Thesis, in addition to the following materials (Background data) and to supervise the work as stated here:

- Recruitment of the key informants
- Helping to find the location for the workshop
- Guiding with the implementation of the project in Kenya

4. REVIEW AND STATEMENT BY THE PARTNER

When the Thesis and the Results are ready to be published, the students will deliver the Thesis and the Results to the contact person of the Partner for review and evaluation at the latest 14 days before the planned publication of the work. The Partner will notify the students before the publication of the Thesis whether the Thesis contains any information or data that cannot be published and defines said information or data. However, the Partner cannot expect the student to omit data from the Thesis solely on the basis that the contractual Thesis Results are, for the Partner, disadvantageous.

Additionally, when the Thesis is ready, the Partner will provide a statement on the progress of the Thesis project, the Results and the significance for the Partner, as well as the skills demonstrated by the students: information, skills and performance during the Thesis project process.

If the Partner does not, before the agreed publication, notify the students of any material that may not be published, or will not define data that must be deleted due to confidentiality related matters, it will be construed that the Partner has approved the publication of the Thesis in the format delivered by the Student to the Partner.

5. THESIS, RESULTS AND RESEARCH MATERIAL RIGHTS
The copyright of the Thesis, Results and Research material as well as other Intellectual Property Rights belong to the students.

If the Supervisor's contribution to the Thesis Results has been so exceptionally creative and original that it is or may be protected by intellectual property rights, without forming an independent part separable from the student's work, the students and the Supervisor agree separately on the distribution and administration of Intellectual Property Rights.

If the students are involved in an invention that is patented, they are to be mentioned as one of the inventors. Possible invention compensation is agreed separately in accordance with the guidelines of the Laurea University of Applied Sciences or the Partner's invention guidelines.

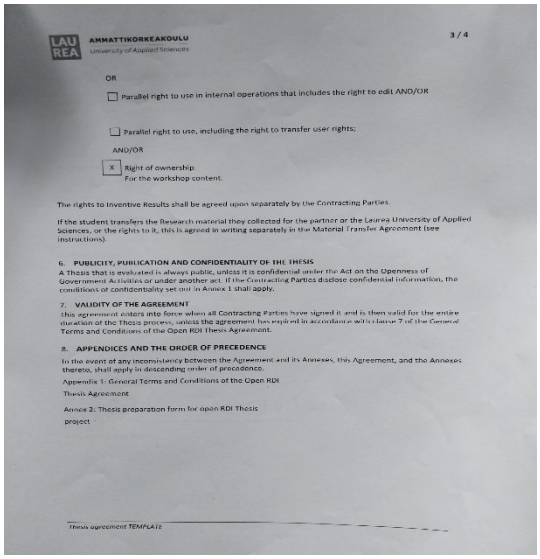
The following Results are submitted to the Partner, from which the Partner acquires the rights to be published in accordance with clause 4 of the General Terms and Conditions (Annex 1):

- Partner organization get the rights for the use of the health promotion content (PowerPoint)

In addition to those mentioned in clause 4 of the General Terms and Conditions (Appendix 1), the students may assign to the Partner the rights specified below for the following Results *[tick the box and specify for each box the Result to which the right is assigned]*:

☐ Parallel user rights in internal operations for non-published Results. The right to use does not include the right to edit or transfer rights;

Thesis agreement TEMPLATE



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OR

☐ Parallel right to use in internal operations that includes the right to edit AND/OR

☐ Parallel right to use, including the right to transfer user rights;

AND/OR

☒ Right of ownership
For the workshop content.

The rights to Inventive Results shall be agreed upon separately by the Contracting Parties.

If the student transfers the Research material they collected for the partner or the Laurea University of Applied Sciences, or the rights to it, this is agreed in writing separately in the Material Transfer Agreement (see instructions).

6. PUBLICITY, PUBLICATION AND CONFIDENTIALITY OF THE THESIS
A Thesis that is evaluated is always public, unless it is confidential under the Act on the Openness of Government Activities or under another act. If the Contracting Parties disclose confidential information, the conditions of confidentiality set out in Annex 1 shall apply.

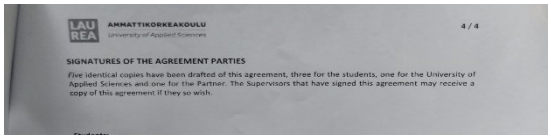
7. VALIDITY OF THE AGREEMENT
This agreement enters into force when all Contracting Parties have signed it and is then valid for the entire duration of the Thesis process, unless the agreement has expired in accordance with clause 7 of the General Terms and Conditions of the Open RDI Thesis Agreement.

8. APPENDICES AND THE ORDER OF PRECEDENCE
In the event of any inconsistency between the Agreement and its Annexes, this Agreement, and the Annexes thereto, shall apply in descending order of precedence.

Appendix 1: General Terms and Conditions of the Open RDI
Thesis Agreement

Annex 2: Thesis preparation form for open RDI Thesis project

Thesis agreement TEMPLATE



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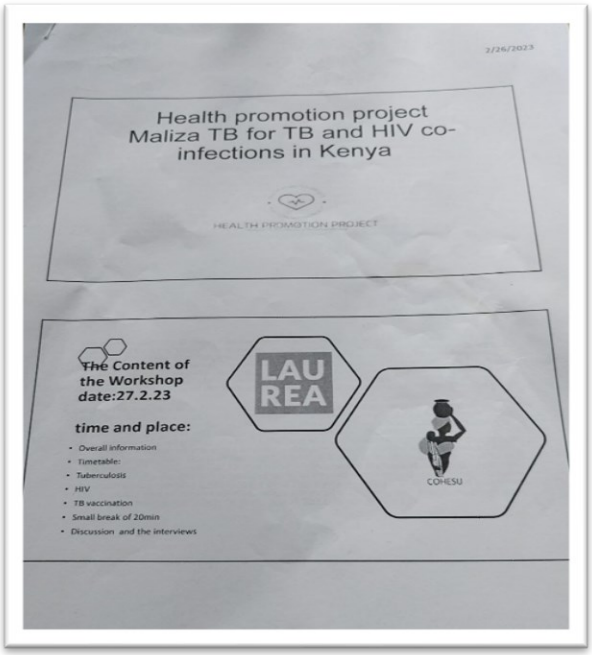
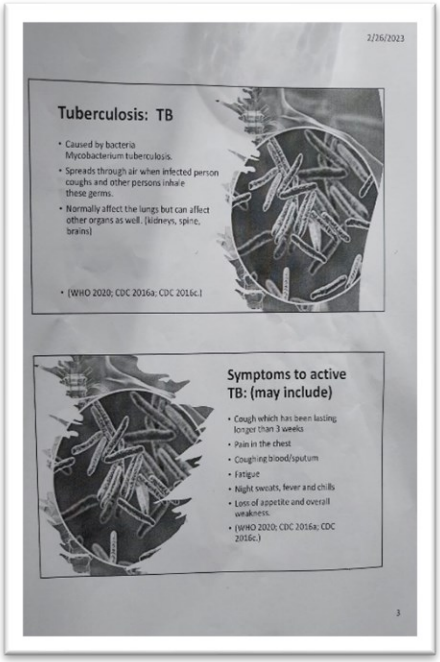
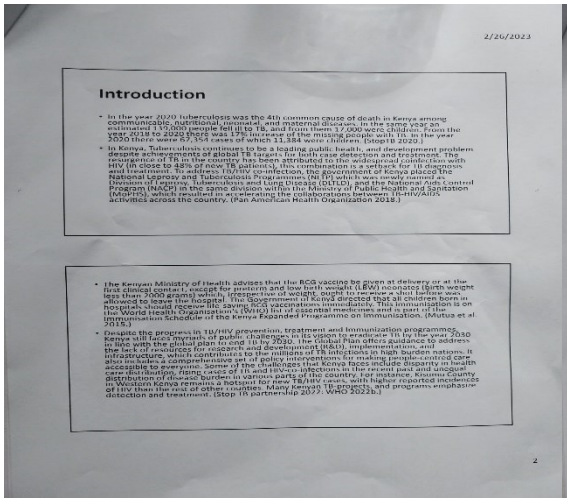
SIGNATURES OF THE AGREEMENT PARTIES

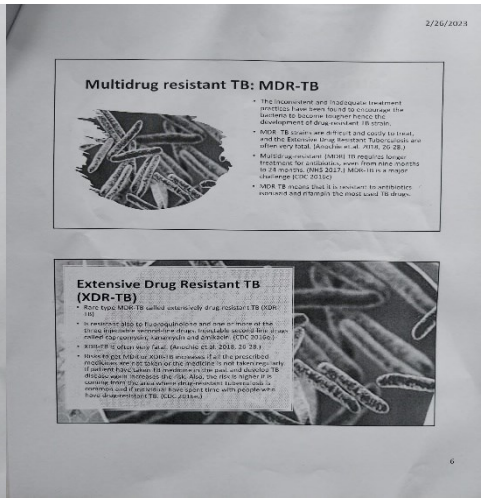
Five identical copies have been drafted of this agreement, three for the students, one for the University of Applied Sciences and one for the Partner. The Supervisors that have signed this agreement may receive a copy of this agreement if they so wish.

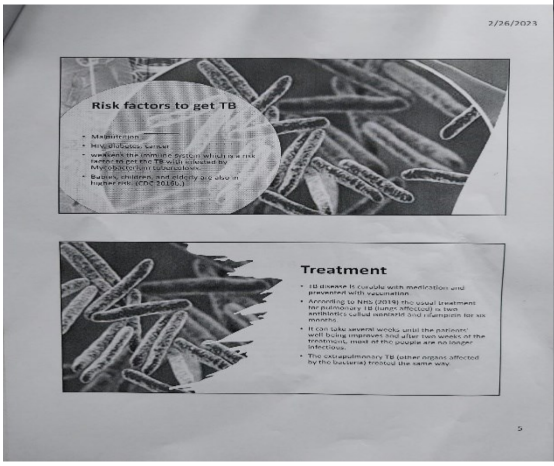
Appendix 10: Workshop contents










2/26/2023
Risk factors to get TB
Malnutrition
HIV, diabetes, cancer
weakens the immune system which is a risk factor to get the TB with infected by Mycobacterium tuberculosis.
Babies, children, and elderly are also in higher risk. (CDC 2016b.)
Treatment
TB disease is curable with medication and prevented with vaccination
According to NHS (2019) the usual treatment for pulmonary TB (lungs affected) is two antibiotics called isoniazid and rifampicin for six months.
It can take several weeks until the patients' well being improves and after two weeks of the treatment, most of the people are no longer infectious.
The extrapulmonary TB (other organs affected by the bacteria) treated the same way.
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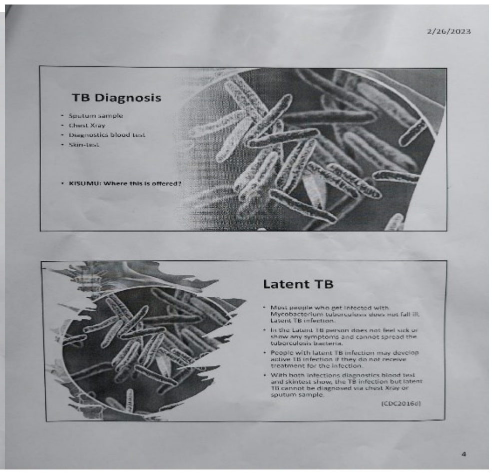
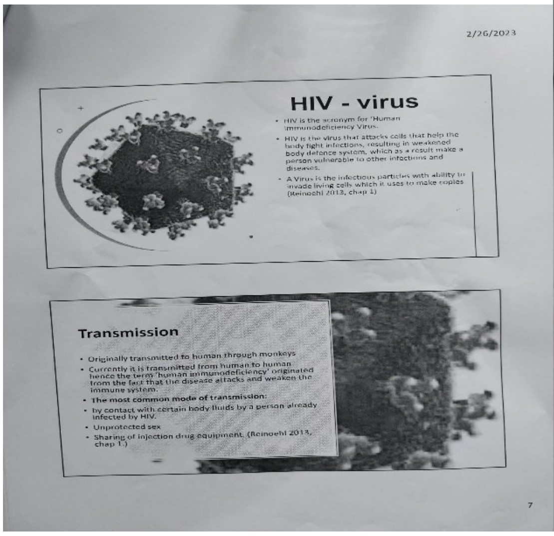
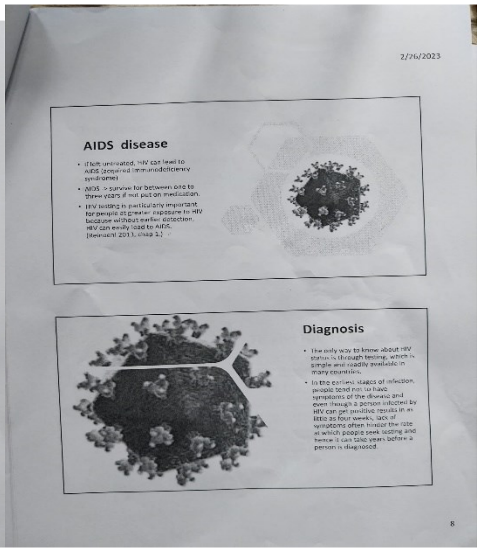
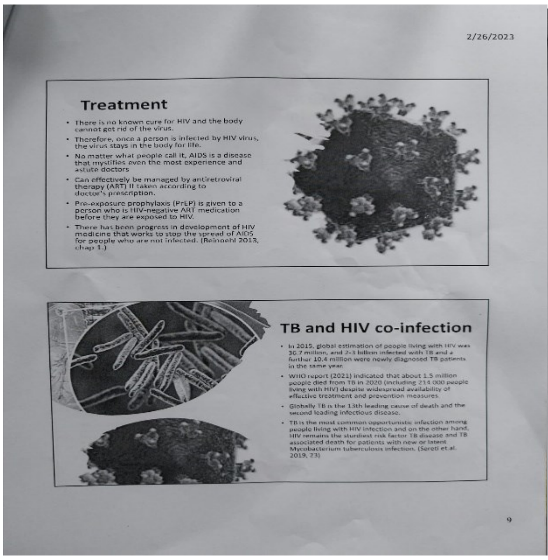

2/26/2023
TB Diagnosis
Sputum sample
Chest Xray
Diagnostics blood test
Skin-test
KISUMU: Where this is offered?
Latent TB
Most people who get infected with Mycobacterium tuberculosis does not fall ill; Latent TB infection.
In the Latent TB person does not feel sick or show any symptoms and cannot spread the tuberculosis bacteria.
People with latent TB infection may develop active TB infection if they do not receive treatment for the infection.
With both infections diagnostics blood test and skintest show, the TB infection but latent TB cannot be diagnosed via chest Xray or sputum sample.
(CDC2016d)
4


2/26/2023
HIV - virus
HIV is the acronym for 'Human Immunodeficiency Virus.
HIV is the virus that attacks cells that help the body fight infections, resulting in weakened body defence system, which as a result make a person vulnerable to other infections and diseases.
A Virus is the infectious particles with ability to invade living cells which it uses to make copies (Reinoehl 2013, chap 1)
Transmission
Originally transmitted to human through monkeys
Currently it is transmitted from human to human hence the term 'human immunodeficiency' originated from the fact that the disease attacks and weaken the immune system.
The most common mode of transmission:
by contact with certain body fluids by a person already infected by HIV.
Unprotected sex
Sharing of injection drug equipment. (Reinoehl 2013, chap 1.)
7


2/26/2023
AIDS disease
If left untreated, HIV can lead to AIDS (acquired immunodeficiency syndrome)
AIDS -> survive for between one to three years if not put on medication.
HIV testing is particularly important for people at greater exposure to HIV because without earlier detection, HIV can easily lead to AIDS. (Reinoehl 2013, chap 1.)
Diagnosis
The only way to know about HIV status is through testing, which is simple and readily available in many countries.
In the earliest stages of infection, people tend not to have symptoms of the disease and even though a person infected by HIV can get positive results in as little as four weeks, lack of symptoms often hinder the rate at which people seek testing and hence it can take years before a person is diagnosed.
8


2/26/2023
Treatment
There is no known cure for HIV and the body cannot get rid of the virus.
Therefore, once a person is infected by HIV virus, the virus stays in the body for life.
No matter what people call it, AIDS is a disease that mystifies even the most experience and astute doctors
Can effectively be managed by antiretroviral therapy (ART) if taken according to doctor's prescription.
Pre-exposure prophylaxis (PrEP) is given to a person who is HIV-negative ART medication before they are exposed to HIV.
There has been progress in development of HIV medicine that works to stop the spread of AIDS for people who are not infected. (Reinoehl 2013, chap 1.)
TB and HIV co-infection
In 2015, global estimation of people living with HIV was 36.7 million, and 2-3 billion infected with TB and a further 10.4 million were newly diagnosed TB patients in the same year.
WHO report (2021) indicated that about 1.5 million people died from TB in 2020 (including 214 000 people living with HIV) despite widespread availability of effective treatment and prevention measures.
Globally TB is the 13th leading cause of death and the second leading infectious disease.
TB is the most common opportunistic infection among people living with HIV infection and on the other hand, HIV remains the sturdiest risk factor TB disease and TB associated death for patients with new or latent Mycobacterium tuberculosis infection. (Sereti et.al. 2019, 23)
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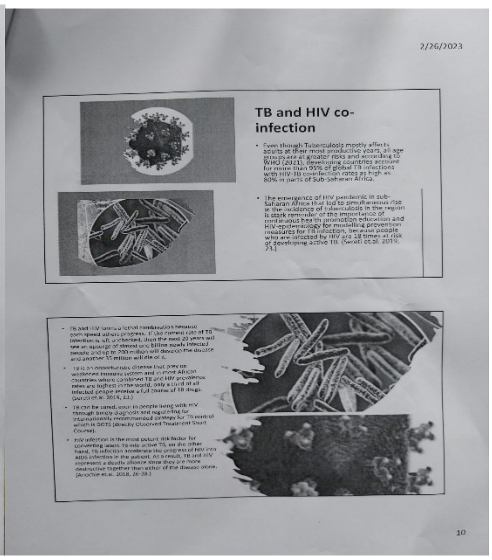
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TB and HIV co-infection
Even though Tuberculosis mostly affects adults at their most productive years, all age groups are at greater risks and according to WHO (2021), developing countries account for more than 95% of global TB infections with HIV-TB co-infection rates as high as 80% in parts of Sub-Saharan Africa.
The emergence of HIV pandemic in sub-Saharan Africa that led to simultaneous rise in the incidence of tuberculosis in the region is stark reminder of the importance of continuous health promotion education and HIV-epidemiology for modelling prevention measures for TB infection, because people who are infected by HIV are 18 times at risk of developing active TB. (Sereti et.al. 2019, 23.)
TB can be cured, even in people living with HIV through timely diagnosis and registering for internationally recommended strategy for TB control which is DOTS (directly Observed Treatment Short Course).
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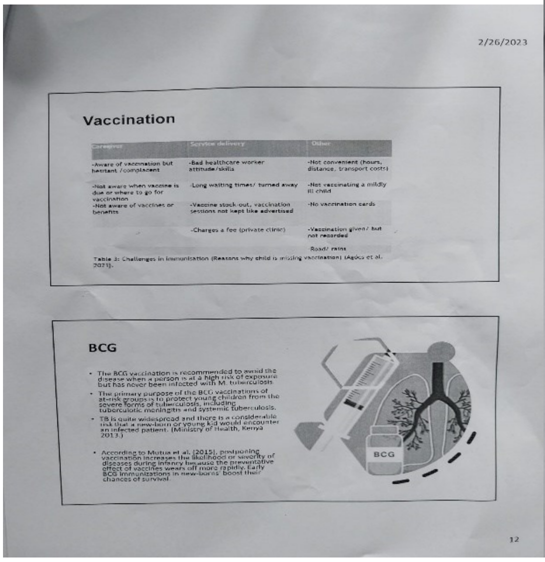
2/26/2023
Vaccination
Caregiver | Service delivery | Other
-Aware of vaccination but hesitant /complacent
-Bad healthcare worker attitude/skills
-Not convenient (hours, distance, transport costs)
-Not aware when vaccine is due or where to go for vaccination
-Long waiting times/ turned away
-Not vaccinating a mildly ill child
-Not aware of vaccines or benefits
-Vaccine stock-out, vaccination sessions not kept like advertised
-No vaccination cards
-Charges a fee (private clinic)
-Vaccination given/ but not recorded
-Road/ rains
Table 3: Challenges in immunisation (Reasons why child is missing vaccination) (Agócs et al. 2021).
BCG
The BCG vaccination is recommended to avoid the disease when a person is at a high risk of exposure but has never been infected with M. tuberculosis.
The primary purpose of the BCG vaccinations of at-risk groups is to protect young children from the severe forms of tuberculosis, including tuberculotic meningitis and systemic tuberculosis.
TB is quite widespread and there is a considerable risk that a new-born or young kid would encounter an infected patient. (Ministry of Health, Kenya 2013.)
According to Mutua et al. (2015), postponing vaccination increases the likelihood or severity of diseases during infancy because the preventative effect of vaccines wears off more rapidly. Early BCG immunizations in new-borns' boost their chances of survival.
BCG
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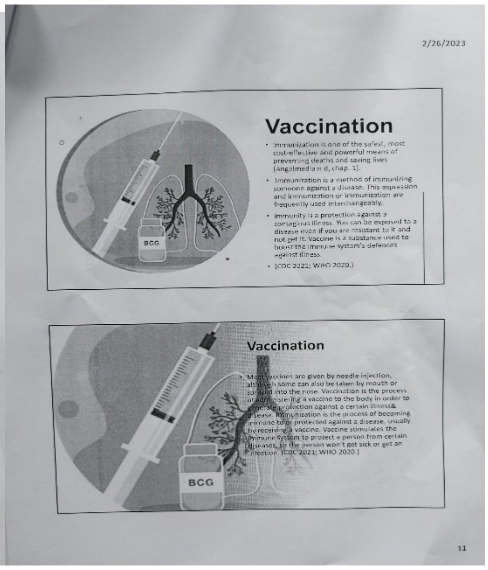
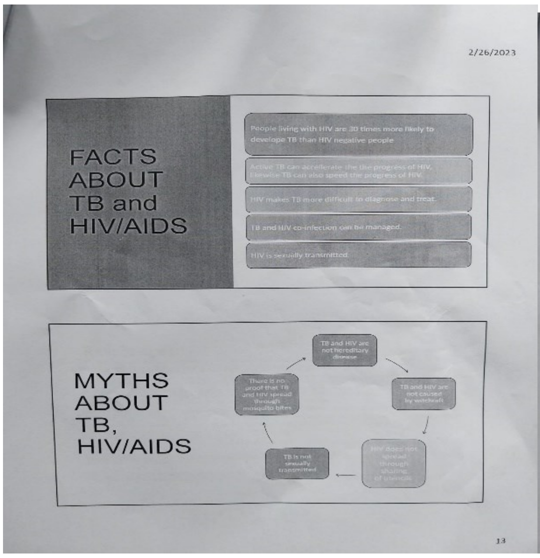

2/26/2023
Vaccination
Immunization is one of the safest, most cost-effective and powerful means of preventing deaths and saving lives (Angelmedia n.d, chap. 1).
Immunization is a method of immunizing someone against a disease. This expression and immunization or immunization are frequently used interchangeably.
Immunity is a protection against a contagious illness. You can be exposed to a disease even if you are resistant to it and not get it. Vaccine is a substance used to boost the immune system's defences against illness.
(CDC 2021; WHO 2020.)
BCG
Vaccination
BCG
11


2/26/2023
FACTS ABOUT TB and HIV/AIDS
People living with HIV are 30 times more likely to develope TB than HIV negative people
HIV makes TB more difficult to diagnose and treat.
TB and HIV co-infection can be managed.
HIV is sexually transmitted.
MYTHS ABOUT TB, HIV/AIDS
TB and HIV are not hereditary disease
TB and HIV are not caused by witchcraft
TB is not sexually transmitted
There is no proof that TB and HIV spread through mosquito bites
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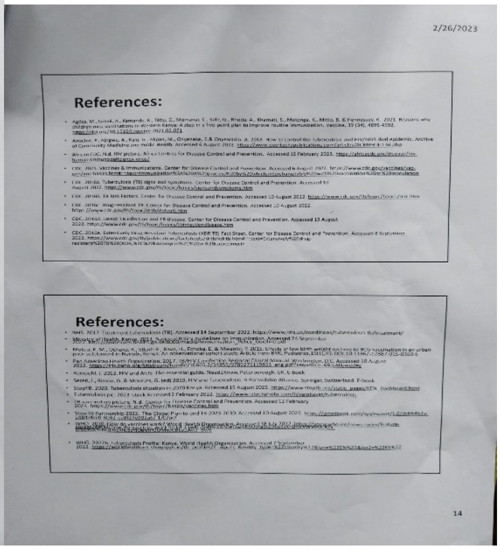
2/26/2023
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Appendix 11: The workshop location

Appendix 12: An offline digital voice recorder used for interview recordings.