Spatial Determinants of Health and Culture; Health Promotion Project for TB and HIV Co-Infection in Kisumu- Kenya

Milka Pietilä

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Milka Pietilä
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Laurea University of Applied Sciences **Abstract**

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Milka Pietilä

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The aim of this qualitative cross-sectional study was to reveal the cultural beliefs and customs of people in Kisumu County and the culturally sensitive means used by service deliverers in Kisumu to benefit infection prevention. The objectives of the study were to reveal the cultural beliefs and customs of people in Kisumu regarding Tuberculosis (TB) and human immunodeficiency virus (HIV) informed by service deliverers working in Kisumu County and to reveal the culturally sensitive means used to guide TB and HIV positive clients. Another objective of the study was to assess the realization of Spatial Determinants of Health (SDH) in infection prevention.

The health promotion project was carried out in the Lumumba sub-county hospital in Kisumu, Kenya in collaboration with a local non-governmental organisation, the Community Health Support Programme (COHESU). COHESU recruited key informants from various facilities in Kisumu East Sub-County through purposive sampling according to the inclusion and exclusion criteria. All project and study participants were from the service sector. The key informants included nurses, pharmacists, nutritionists, clinical officers, and community health workers. This is the second report and study from the TB and HIV co-infection health promotion project in Kisumu. Chernet and Riako collected their own data and published their report from the project. The author of this study was involved in the development of the theoretical background and plan and participated in the implementation of the entire project. Data for this study was collected through open-ended interviews with seven key informants after health promotion. The data were analysed using inductive and deductive methods of thematic analysis. The SDH was implemented as the framework for the deductive analysis and the Health Belief Model was used as the theoretical framework for the project and interviews.

Addressing health issues in the local language at cultural events such as weddings, funerals, circumcisions, and chief barazas, as well as emphasising the work of community health volunteers and voluntary testing for early detection, were seen as culturally sensitive means of infection prevention. Sensitising traditional spiritual healers and religious leaders to infectious diseases is also a culturally sensitive way of raising awareness. Providing quality healthcare services for treatment and diagnosis could help in the fight against delayed diagnosis. The interview questions were constructed according to the individual-centred HBM, but the responses were community-centred. The SDH were recognised by the service deliverers. Each region has its own SDH that need to be considered and recognised to achieve effective health promotion outcomes and better universal health coverage and policies. This was a small-scale interview study so the data cannot be generalised to a wider population. The recommendation for further research is to address these SDH in infection prevention with ethnographic research in the area and use this data to develop more culture-centred and culturally sensitive health promotion and increase local as well as global cultural competence for infection prevention.

Keywords: Cultural sensitivity, Health Promotion, Spatial Determinants of Health, Tuberculosis, HIV co-infection, Kenya

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1 Introduction

Tuberculosis (TB) continues to be a leading public health and development problem despite achievements of global TB targets for both case detection and treatment. In the year 2020, TB was the fourth common cause of deaths in Kenya among communicable diseases and 13th common cause of death worldwide. The resurgence of TB in the country has been attributed to the widespread co-infection with human immunodeficiency virus (HIV) in close to 48% of new TB patients. This combination is a setback for TB diagnosis and treatment. (Pan American Health Organization 2017.) Despite the progress in TB and HIV prevention, treatment and immunization, the high disease burden associated with new TB and HIV co-infections and missing cases are of public health concern. According to World Health Organization (WHO), many of the challenges are attributed to lack of knowledge about the causes of TB, delay in diagnosis, and poor treatment adherence (WHO 2022a). In Kenya, many patients adopted many different treatment pathways such as herbalism, traditional cures, private clinic, and pharmacies. Some communities still associate TB with witchcraft and hereditary disease and connected to smoking, consuming alcohol or inhaling dust or cold air. Lack of knowledge accounted 71.8% of TB treatment interruptions. (Mbuthia, Olungah & Ondicho 2018a; 2018b; Kimani et al. 2021.)

The WHO Regional Office for Africa (2013) emphasizes the necessity for multiculturalism approaches and emphasizes the importance of health promotion activities in tackling health challenges. The 2019 Global Conference on Health Promotion in Nairobi instructs for greater community empowerment and better leadership to close implementation gaps. Increasing training for both health and non-health professionals, developing policies, offering community mobilization, public awareness, and reaction top priority to tackle the health challenges. Health promotion is seen as an economical and socially acceptable investment that helps to avert public health issues and supports political, social, and economic stability in Africa. As a vital component of public health, it aids in the management of health concerns by communities, governments, and people via the implementation of beneficial public policies, encouraging surroundings, neighbourhood involvement, and individual skill development. The focus of health promotion is on the important roles that people, families, homes, and communities have in determining health outcomes. It facilitates multisectoral collaboration and cross-sector integration. (WHO Regional Office for Africa 2013.)

Culture-sensitive health promotion considers cultural variances and how they impact people's and communities' attitudes toward, and practices related to health. Although Western medicine often has a Western perspective on illness prevention and treatment, other cultural and ethnic groups have different perspectives on health and illness. Developing an in-depth

understanding of these variations' aids in the creation of health promotions that are both successful and culturally appropriate. Spatial Determinants of Health take into consideration that individual's health is influenced a variety of factors, including behaviour, socioeconomic level, age, gender, cultural background, educational achievement, genetics, and the combination of all these factors. Every individual exists in a geographical setting – in their homes with family, in neighbourhoods, regions and countries. (Huff, Kline & Peterson 2017; Augustin, Andrees, Walsh, Reintjes & Koller 2023.)

This study aimed to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers reported to benefit the infection prevention. Study objectives included to reveal the cultural beliefs and customs of Kisumu people related to TB and HIV informed by service deliverers working in Kisumu County and to reveal the culturally sensitive means to guide TB and HIV-positive clients. Assessing the realization of the Spatial Determinants of Health in the infection prevention the Kisumu service deliverers reported was also one of the study objectives. This report is second report of the health promotion project for TB and HIV co-infection in Kisumu. Chernet and Riako (2023) gathered their own data and published their report "Culturally Sensitive Ways to Increase Awareness and Improve Health-seeking Behaviour: health promotion project for TB and HIV co-infection in Kisumu, Kenya". The author of this study participated in construction of the theoretical background/plan and was part of the implementation of the entire project.

2 Background

2.1 Kenyan health policies related to TB and HIV

The third United Nations Sustainable Development Goal (SDC) is about good health and well-being and about providing and promoting this for all. Target 3.3.2 is to end the tuberculosis epidemic worldwide. The desired level of reduction has not been defined, but "Stop TB" has set itself the target of reducing the national incidence to less than twenty cases per 100.000. According to Kenya's progress report on the SDGs in the area of health from the Ministry of Health and the WHO, achieving the goal of ending the TB and HIV epidemics by 2030 is on track. (SDG Tracker 2018; Kenyan Ministry of Health & WHO 2020.)

Kenyan Ministry of health's vision is to create a healthy, productive, and globally competitive nation. The mission is to build a progressive, responsive, and sustainable healthcare system for the accelerated attainment of the highest standard of health for all Kenyans. The goal is attaining equitable, accessible, and quality health care for all. The Ministry of health mandate is health policy, health regulation, national referral Health facilities, capacity building and technical assistance to counties. Public healthcare providers, private non-profit

organizations (including faith-based and mission hospitals as well as local and foreign NGOs), and private for-profit healthcare providers may all be found in Kenya's healthcare system. (Allianz Care 2022; Kenyan Ministry of Health 2017.)

In the Public Health Act, CAP 242, section 17 designates tuberculosis (TB) as a notifiable infectious disease, and under section 26 as part of the prevention but also control of infectious diseases. Those exposed to or suffering from notifiable infectious diseases should be isolated in a designated place and detained while taking medication until the medical officer of health's assessment confirms that the person is free from infection or able to be discharged without endangering the public health. Prior to taking their medicine, TB patients who refused to take it were imprisoned on the courts' orders while undergoing treatment. Instead of being housed in medical institutions, TB sufferers were being kept in prison. On March 24, 2016, the High Court of Kenya, however, revoked the detention of patients who failed to take their anti-TB medicine. New guidelines and isolation policy were made. (Kenyan Ministry of Health 2016.)

The National Strategic plan for tuberculosis, leprosy, and lung health 2019-2023 have three different priorities. Firstly, it aims to offer quality TB, leprosy, and lung health services to those who are seeking care anywhere in the healthcare system. The plan offers a strategy to network between different care providers and this way close the private sector gap. All healthcare facilities should have GenXpert capacity for diagnosing TB or arrangement for transport to qualified laboratory. Second priority is to screen and treat TB infection especially those who are in greater risk for it. Quality treatment is offered but also identify possible TB cases before they even seek care. The third priority is the universal health coverage's (UHC) essential benefit package to cover different infectious diseases like TB and HIV/AIDS and Malaria. (Kenyan Ministry of Health 2019.)

In order to address TB/HIV co-infection, the government of Kenya placed the National Leprosy and Tuberculosis Programmes (NLTP) which was newly named as Division of Leprosy, Tuberculosis and Lung Disease (DLTLD), and the National Aids Control Program (NACP) in the same division within the Ministry of Public Health and Sanitation (MoPHS), which resulted in accelerated the collaborations between TB-HIV/AIDS activities across the country. NTLP have made guidelines for TB infection Prevention and Control for Health Care workers in Kenya. They are giving guidelines to isolation and information about the TB-infection and prevention and treatment. Person related factors to spreading the TB is the wrong coughing etiquette not covering the mouth and nose while coughing. Also, the risk of spreading the disease increases when the TB/Drug-resistant TB is untreated, and diagnosis is delayed. (Kenyan Ministry of Health 2021b; Kenyan Ministry of Health & WHO 2020.)

The Kenya Health Policy 2012-2030 (KPH) and the National Infection Prevention and Control Policy for Health Care services in Kenya 2015 are guiding the Kenya National Strategic Plan for Infection Prevention and Control 2021-2025. The Kenyan Health Policy seeks to achieve offering affordable and quality health care to every Kenyans. Kenyan Ministry of Health and its partners have strategized to achieve more funding allocation internally and externally to implement the plan for infection prevention and control. Funding can be from government resources and private partnerships and implementation and development partners. One of the key resources mobilization strategies is Ministry of Health's existing programs dealing with infectious diseases like TB and HIV/AIDS. (Kenyan Ministry of Health 2021a.)

Kenya has a vision to provide "equitable and affordable healthcare at the highest affordable standard" and have a goal to achieve 100% Universal Health coverage (UHC). UHC, which is under Big Four Agenda, will ensure that all residents of Kenya are able to access a primary care package and it will help to achieve target three from SDGs. There are some challenges to achieving the target like most health programs are funded by donors and costly health services with low health insurance coverage. The coordination of health projects and programs is weak at a multi-sector level. Kenya has ongoing intervention to increase the number of GeneXpert machines for diagnosing TB and "Introduced shorter-term regimen for management of drug resistant TB. (National Treasury and planning, Kenya 2020.)

Stevens, Neilson, Rasanathan, Babar Syed and Swift Koller (2023) explain in their article that implementing UHC it must ensure that it will benefit disadvantaged populations as much as it will benefit better-off populations. Inequities in accessing healthcare services must be acknowledged by the policy makers and service deliverers. It is necessary to collect data from socioeconomic, spatial, and demographic factors which affect the health outcomes as well as the barriers to action. Exposing these factors can guide the implementation of health promotion and policies. Collaboration between all stakeholders from service deliverers to patients focusing to address equity to quality could have a possible impact delivering healthcare services and improving population's health and reducing health inequities as well as better UHC. (Stevens et al. 2023.)

2.2 Culturally sensitive health promotions

Culture is a dynamic blend of inherited traditions passed down through generations and adaptations made by cultural members in their daily lives. Active community participation contributes to the construction of culture. Culture significantly influences how health is discussed and communicated, shaping individuals' health experiences. Cultural identities are pivotal in understanding health experiences within communities. Cultural perspectives influence perceptions of life events such as birth and death, impacting views on health and illness treatments and causes. Worldview is profoundly shaped by culture, influencing how

health and illness are perceived and approached. (Dutta 2008, 3, 15; Samovar, Porter, McDaniel & Roy 2017.)

Dutta (2008, 15) explains that the culture-centred approach focuses on an effort to developing ideas and applications from inside the culture, whereas the cultural sensitivity approach promotes the status quo agenda and strives to modify communications to the cultural characteristics of the intended audience.

Finnish Institute for Health and Welfare (THL) (2024) determines cultural sensitivity healthcare to the ability and willingness to understand people from diverse cultures and when services are culture sensitive, they are flexible to diverse customers. Verbal and non-verbal communication is respectful, and culture is expressed and accepted in the context. Cultural competence is respecting people's different culture and building and respecting environment of no discrimination. Culture competence involves culture awareness, knowledge, and skill and also motivation to evaluate own cultural habits and its differences to other cultures' habits and values. Strong cultural competence is important in the global world with multicultural environments. (THL 2024.)

Huff, Kline and Peterson (2017) explain that all activities by individuals and communities are influenced by the culture. Culture is forming from religions, ideologies, knowledge, institutions, and governance. Culture also plays a crucial role in health promotion and disease prevention efforts. Health promotion is all activities that are designed to improve health of the communities and individuals. It includes implementation of policies and behaviour change strategies, risk factor detection, health education and maintenance and enhancement of health. Health promotion goals are to achieve various levels of outcomes individual, family, and community. Culture sensitivity considers the differences in cultures and cultures influence in individuals and communities' health views and behaviour. Western approaches preventing diseases and treating diseases are common viewpoint in Western medicines but there are many ways of understanding, approaching diseases and health across cultural and ethnic groups. By deepening the understanding of these differences helps to form the effective and culture-sensitive health promotions. (Huff, Kline & Peterson 2017.)

Health promotion can be implemented in a broader community level, seeking health-related behaviour changes by example making a change on the structural level and affecting regulations and policies. Disease prevention must assess the need of the communities and identify the risk-groups and risk behaviour. Primary prevention of the disease is done by education and immunization and the secondary prevention level provides activities when disease is already present, like early diagnosis and prompt treatment. The tertiary level of prevention is providing rehabilitation to achieving the minimum disability after or existing the illness. (Huff, Kline & Peterson 2017.) Tucker et al. (2015) found in their study, when

community-based health promotion is done culturally sensitive and empowerment-focused the effectiveness of the promotion is greater than in the control group. Adherence to the provided treatment increased when the patient felt the service deliverers are culturally sensitive (Tucker, Marsiske, Rice, Jones & Herman 2012).

2.2.1 Social Determinants of Health

World Health Organization (2024a) explains that there are non-medical factors that affect health outcomes, and these are called Social Determinants of Health (SDH). They include the conditions under which individuals are born, grow, work, live, and age, as well as the larger set of factors and processes which influence daily life (WHO 2024a). Cultural and religious beliefs are cultural determinants of health.

According to the Global Tuberculosis report 2021 (WHO 2024b) indicated that TB epidemic is affected by the economic and social determinants and health related risk factors. These risk factors include HIV infection, undernourishment, smoking and alcohol use disorders. In Kenya 22% of the population is undernourishment, HIV prevalence from 15-49years of age is 4.5%. These are the two biggest health related risk factors to TB in Kenya. (WHO 2024b.)

Sociocultural Determinants of Health seeking-behaviors have been studied in Kenya. In the study situated in the coastal region of Kenya found out that SDHs like the opinion of the father or the elders' affected to the health seeking behaviors when choosing the treatments for a child. Their study findings were the importance of involving fathers more on the health educations. (Abukar, Van Baar, Bomu, Gona & Newton 2013.) In their study from Western Kenya, Sundaram et al. (2012) indicated that to be able to improve vaccine coverage in the communities the social and cultural factors affecting the outcome must be known.

2.2.2 Health Communication

According to European Centre for Disease Prevention and Control (ECDC 2022), health communication is part of health promotion. Well planned behaviour-based "health communication activities" have a major impact on individuals' behaviour, beliefs, and attitudes towards health. The table one explains principles to effective health communication. (ECDC 2022.) This health promotion followed ECDC's principles of health communication, and a culture-sensitive approach was taken into consideration. Table one describes ECDC 2022 principles to health communication.

PRINCIPLE:	CONTENT:
Validity:	Correct and free of flaws in fact, translation, or judgements.
Accessibility:	Delivered or placed in an availability location for the audience
Complement:	Information offers the advantages and hazards of prospective actions or acknowledges many and valid points of view on the problem
Consistency:	Internally consistent and consistent given data gathered from other sources.
Cultural competence:	The process of planning, delivering, and evaluating programs that take into consideration particular challenges for specific demographic groups, as well as academic qualifications and disabilities.
Knowledge base:	Pertinent scientific proof which has been comprehensively reviewed and rigorously analyzed to provide practice recommendations, performance measures, evaluation criteria and technical analyses
Reach:	Available to the greatest number of persons in the target audience.
Reliability:	Reputable and maintained up to date.
Repetition:	The access is sustained throughout time -> to affect the certain audience and new generations
Timeliness:	Made/provided when the audience is need for information.
Understandability:	The language used in the content is adequate for the audience.

Table 1: Health communications' principles modified from ECDC 2022

Culture-sensitive health communication considers that the respective message and recipient´s cultural characteristics will be taken into consideration and this way in-crease the health communication effectiveness. When the health communication is adapted into the recipient´s cultural background and the information is evidence-based the communication is done in culture-sensitive way. Culture-sensitive health communication will improve and increase the knowledge for medical decision making and makes health promotion messages more persuasive. (Betsch et al. 2015.) Kenya is a bilingual country, having Swahili and English as its official languages however, several local languages are spoken (Orao 2012). Culturally sensitive health promotion reaches out to varied communities using suitable language and communication methods.

According to Houts, Doak C., Doak L. and Loscalzo (2006) individuals were able to recall, and the attention increased to health education, when pictures were used related to the topic compared to education which did not use pictures. Comprehension improvement happen when pictures explain relationships between ideas. The use of pictures in health education/promotion can influence adherence to health advice but individuals' emotional impact to them determines does they boost or reduce target health behaviour. Every individual benefit picture used in health promotion but especially individuals with low literacy skills. The use of spoken directions combined with pictures to take home as reminders or pictures with simply phrased captions, benefits individuals with limited reading abilities. (Houts et al. 2006.)

When autonomy is given to the community it is referred as community empowerment. Communities local or national and are groups of individuals who have mutual beliefs and values. The practice through which individuals obtain control over the factors and decisions which influence their lives is called empowerment. This is the method through which people increase their resources and attributes even while growing skills in to gain access, networks and partner or a voice to achieve control. Empowerment is coming from the people of the community itself and cannot be empowered by others. Communication is critical part of community empowerment. Communication tactics which emphasize participation that allow discussion and debate and dialogue lead to increased knowledge and awareness as well as more critical thinking. This encourages communities to comprehend the factors that influence on their lives and assist of taking personal responsibility. Community empowerment consider the many factors that influence health and seek collaboration with other sectors to discover answers. Empowerment is so much more than community involvement, engagement, and commitment. Community empowerment entails collective ownership and engagement with a clear political goal and social transformation. Some individuals will be empowered, and some will be offering their existing power. In the community empowerment key factor is the power and health promotion invariably work in the fields of power struggle. (WHO 2022b.)

2.2.3 Community Health dialogues and Barazas

The Kenyan community health strategy was invented in the year 2006 and it is emphasizing initiative-taking health promotion for individuals and communities to avert disease outbreaks. Kenya's vision 2030 prioritizes community health, which is classified as level 1 health care under the Kenya Health Act of 2017. A Community Health Unit delivers health services to a specific geographic region with a population of around 5,000 people. Each unit is allocated a Community Health Assistant/Officer and ten volunteers to provide preventive and basic curative treatments. A Community Health Volunteer (CHV) is a member of the community who has been selected to work in a community health unit. Volunteers are recruited, trained, and assigned duties according to the Kenya Community Health Policy (2020- 2030). CHVs have been instrumental in implementing primary healthcare since the 1980s. They continue to mobilize communities to prioritize their health and provide basic healthcare at the community level. (Kenyan Ministry of Health n.d; Kenyan Ministry of Health 2013.)

Community health dialogues includes sharing information amongst individuals or groups to achieve a shared understanding and practical solutions (Tupange Pamoja n.d). Baraza is a Kiswahili term that refers to public meetings held to raise awareness, respond to issues affecting a particular community, provide important information and allow residents to identify and propose solutions to concerns. They also serve to disseminate information to the community and respond in a timely manner to important issues affecting that community. (United Nations Development Programme (UNDP) 2024.)

2.3 Cultural theories

There are many different theories and frameworks for health promotion. These models emphasize different topics on how health promotion can affect health. The implementation of the project and conducted interviews utilized individual Health Belief Model. Health Belief Model's focus is on the Individuals' views of health risks, advantages of avoiding them, and variables affecting their decision to act. (Rimer & Glanz 2005.) In order to be able to provide culturally sensitive health promotions, holistic approaches must be taken for the implementation and analysing.

2.3.1 Trans-cultural nursing and Culture Care Theory

The goal of trans-cultural nursing is to deliver compassionate, effective care that considers the cultural requirements of patients, families, and communities. To do this, it's critical to comprehend how individuals perceive and react to illnesses and health, as well as the cultural influences on their behaviour. Service deliverers need to become more culturally competent and knowledgeable of the social structure of the community. The foundation of trans-cultural nursing is an understanding of cultural perspectives on sickness, prevention, and health promotion. While differences in beliefs and cultures have been acknowledged in practice, cultural health care is not frequently used in daily health practices. (Shahzad, Ali, Younas & Tayben 2021.)

According to University of North Carolina Wilmington (UNCW) (2024) there are three types of interactions in trans-cultural healthcare. First culture of the individual. Individuals have their own beliefs which are moulded by the culture. Environment has its own culture as well and health care organizations should show cultural aspect of the community to make sure service users/patients feel more comfortable. Service deliverers have their own culture too and they need to be aware of their own valid beliefs. (UNCW 2024.)

The Culture Care Theory (CCT) has holistic and culture-specific approach to find useful care to diverse cultures. It was developed in the mid-1950s, and it was long the only theory emphasizing the effect and relationship of culture to individual's well-being, illness, health and death. CCT takes to consideration the differences and commonalties exists in the care and social structure, worldview affect individuals access to healthcare services, adherence to public health mandates and adherence to medication. The CCT recognizes both Emic (inside's) and etic (outsider's) view of health and environmental aspects which are influencing health. (Pare 2021; Leininger 2002.)

Leininger's (2002) sunrise model describes all the various aspects which affects individual's health to the CCT. The model provides a holistic approach for analyzing individual's values, beliefs, behaviour and norms of the community. Sunrise-model takes under consideration

many aspects of the culture, including religion, economic, social, technical, educational as well as political, legal, and philosophical aspects. Language and social surroundings together with these aspects have a major impact on to the professional and traditional healthcare services. Traditional healthcare is based on the cultural views about health and professional services are founded on evidence-based research and practices. (Albougami, Pounds & Alotaibi 2016; Leininger 2002.)

McFarland, Mixer, Webhe-Alamah and Burk (2012) explain in their article that the Leininger's ethnography research method and the CCT was developed for guiding the study of transcultural human care phenomena and acknowledge the knowledge which service deliverers need in the multicultural world. CCT provides a base for research knowledge for the increasing implementation of trans-cultural nursing. Ethnography method can be used also in other fields of studies, including education. CCT and ethnography are beneficial or addressing culturally sensitive and competence care. (McFarland et al. 2012; Leininger 2002.) Juntunen (2000) explains ethnography being a research approach focusing observations and open interview in the field. It aims to reveal broad and detailed view of the people's way of life and the way of seeing the world in their environmental and cultural context. When studying culture by ethnographic approach, researcher must acknowledge his/her own cultural background and to be accepted in the community as an equal individual in order to gain rich and meaningful data about the culture.

2.3.2 Spatial Determinants of Health -framework

Individual's health is influenced a variety of factors, including behaviour, socioeconomic level, age, gender, cultural background, educational achievement, genetics, and the combination of all of these factors. Every individual exists in a geographical setting – in our homes with family, in neighbourhoods, regions and countries. Each of the geographical level includes more people, cultures, policies, and infrastructural and environmental factors that are also influencing the health of the individual. Spatial Determinants of Health (SDH)-framework considers these overly complex factors and the interactions between them to health. (Augustin et al. 2023.)

On a macro scale, global driving forces are impacting national forces such as policies and governance. The meso scale includes regional and local factors. These include sociodemographic and economic conditions, as well as micro scale factors such as neighbourhood and household factors like living and physical environment, healthcare services, and cultural and working conditions, all of which can affect the individual's health status. Individual's personal characteristics are in the micro scale from the SDH. There are feedback mechanisms between all these SDH. (Augustin et al. 2023.)

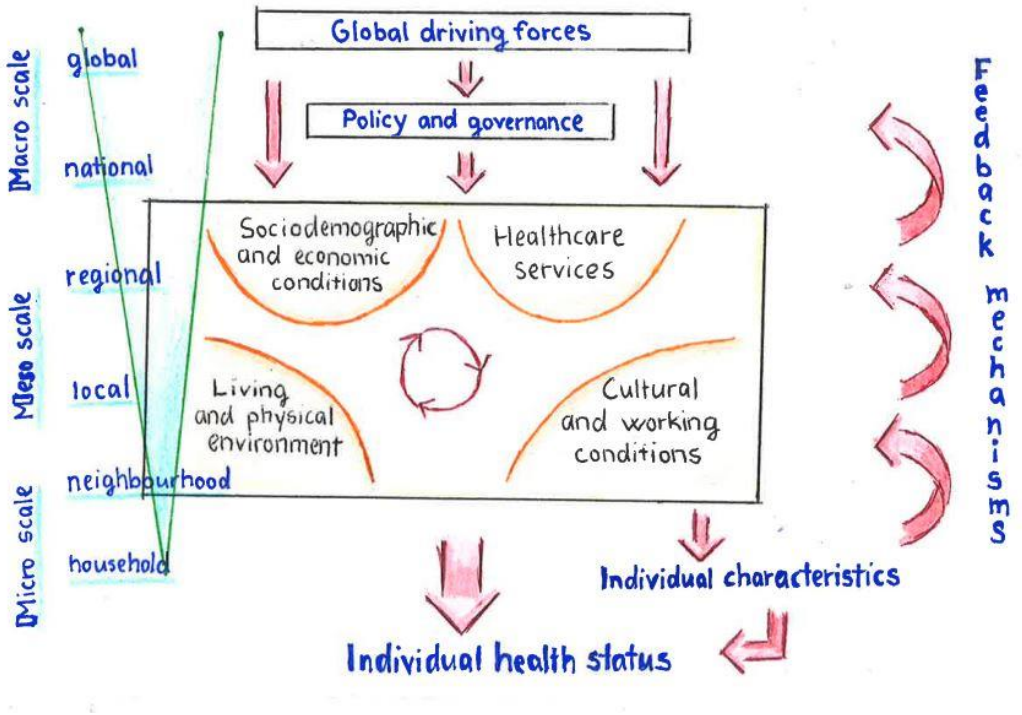

Figure 1: Spatial Determinants of Health - framework modified from Augustin et al. 2023

Figure one demonstrates SDH-framework which take more holistic approach to individual's health status than the earlier mentioned Leininger's sunrise model. All the factors that influence individual's health also affect to each other both ways.

3 Study aims and objectives

The aims of the study were to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers in Kisumu reported to benefit the infection prevention.

The study objectives were:
1) To reveal the cultural beliefs and customs of Kisumu people related to TB and HIV informed by service deliverers working in Kisumu County.

2) To reveal the culturally sensitive means the Kisumu service deliverers reported to use when guiding TB and HIV-positive clients.

3) To assess the realization of the Spatial Determinants of Health in the infection prevention the Kisumu service deliverers reported.

4 Methods

This chapter will explain and justify the used methodology and express how it was used in this study. It will describe the project settings and partners, development process, study design, sampling and data collection, data management and protection and also the data analysis.

4.1 Project settings

The Republic of Kenya is an East African nation with the Indian Ocean its coastline to southeast, Ethiopia to the north, South Sudan to the northwest, Somalia to the east, Uganda to the west, and Tanzania to the south. Kenya has a population of approximately 54 million. Kenya is the biggest and advanced economy in Central and East Africa. It has vibrant cultures and stunning national parks and to those living outside of the continent the nation is most well-know from African animals. Over the last ten years, Kenya has implemented important political and economic changes that have aided in the country's continued advancements in social development, political stability, and economic prosperity. Kenya is a low-income nation where the youth population is expanding quickly. The poverty rate at national poverty line was 36.1 % in 2015. (United Nation 2015; StopTB 2020; Ntarangwi, Ominde & Ingham 2024.)

Three sectors form the basis of the Kenyan health system: public, private, and voluntary. With 52% of the population receiving Universal Health Care (UHC), the public sector is the main provider of health services. Over the last ten years, public health care has either remained unchanged or improved somewhat. By 2050, Kenya's population is expected to grow by almost 20 million to 74.1 million. Since 2010, the maternal mortality rate has remained constant, with an estimated 342 deaths per 100.000 women aged 15 to 49 during pregnancy or within 42 days of giving birth. (IHME 2022.)

Communicable diseases, maternal, neonatal, and nutritional diseases are still the most common causes of death. HIV/AIDS, tuberculosis, diarrhoea diseases, neonatal diseases, and stroke are the leading causes of death between 2009 and 2019, and there is also an upward trend in diabetes, lower respiratory tract infections and ischemic heart disease, while cirrhosis and meningitis are visibly declining. The infant mortality rate fell significantly between 2000 and 2017 and the mortality rate in the under-5 and under-1 age groups fell visibly between 1990 and 2019. It is evident that the government is the leading provider of health services, and the trend is set to continue, although a further decline in development aid is forecast for 2050. There are clear improvements in sustainable development, particularly in the maternal mortality rate and the national mortality rate. (IHME 2022.)

In 2018, Kisumu was among the districts with the highest incidence of HIV infection in Kenya with an annual HIV infection rate of over 1000, making it the third highest after neighbouring Homabay and Siaya districts. Kisumu is also one of the districts with a TB burden of 500-600

cases per 100.000 inhabitants (Kenyan Ministry of Health 2018). This shows that effective health education on TB and HIV co-infection is necessary.

4.2 Project partners

Project partner organization was chosen between two candidates, project authors choose the Community Health Support Program (COHESU), because it operates in the Western regions of Kenya, where according to previous research the infection rates to TB and HIV is the highest. COHESU also have previous experiences to implementing similar health promotions. Abudho (2022) explains that COHESU was registered as a national, fully non-political NGO on 21st December 2001. COHESU`s main goal 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. Other project partners were two Master students Chernet and Riako from the same Masters in Global Health and Crisis Management study program from Laurea University of Applied Sciences (UAS) as the author.

4.3 Description of the development process

Most health promotion projects go through planning and evaluation cycles, as shown in the figure two below. The first phase is to define the problem. Therefore, a theory is needed to help identify the goals for the intervention. The second phase is solution finding, where the theory helps to clarify when and how the desired change can be achieved. The third phase is the mobilization of resources, where the theory shows how the change can be achieved. In addition to the mobilization of resources, the fourth phase the implementation is also an important component of health promotion. During implementation, theory serves as a benchmark that can be compared with the most ideal programme. Health promotion theory also defines the outcomes and measurements for evaluating impact and intermediate outcomes. Finally, outcome evaluation is the last phase of the health promotion planning and evaluation cycle. (Nutbeam, Harris & Wise 2010, 2.) Figure two demonstrates the planning and evaluation cycle of the project.

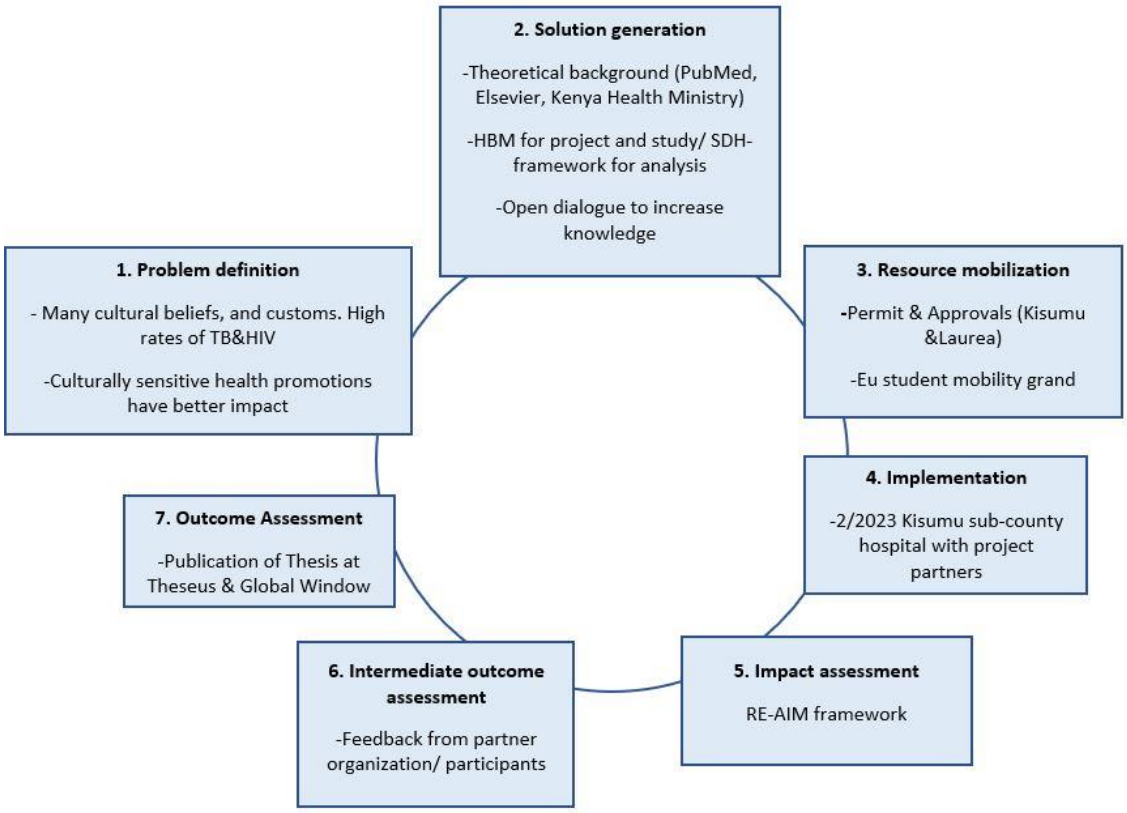

Figure 2: Planning and evaluation cycle modified from Nutbeam et al. 2010, 2

The problem definition raised from the previously conducted studies. There are many cultural beliefs and customs in the Kisumu region, which has a high incidence rate of tuberculosis and HIV. Culturally sensitive health promotion has a greater impact and in order to implement this, cultural beliefs and customs need to be recognised by service deliverers. Tucker et al (2015; 2012) express that the effectiveness of community-based health promotion is greater when it is delivered in a culturally sensitive and empowering way, and when service deliverer is culturally sensitive, treatment adherence increases. The TB and HIV co-infection health promotion workshop in Kisumu County, Kenya, was developed to reveal these cultural beliefs and to reveal culturally sensitive ways of guiding TB and HIV positive clients. Local service providers and community members were selected as the target group as they have experience with the topic and could benefit the most from health promotion. The project partner organization COHESU was selected because it already had experience in implementing similar health promotions and operates in the region.

Solution generation included conducting theoretical background for the project. Theory base was collected from various sources: PubMed, Elsevier, Google Scholar and Government of Kenyan Health Ministry and other relevant sources. HBM was chosen as theoretical framework for the project and interview questions. HBM´s focus is on the individuals' views of health

risks, advantages of avoiding them, and factors affecting their decision to act. (Rimer & Glanz 2005). Health Promotion was planned to emphasize open dialogue to increased knowledge and awareness as well as more critical thinking (WHO 2022b).

Resource mobilization involved applying permit and approval. Authors of the project received approval from Thesis supervisors to implement the project when the thesis plan was accepted. Partner organization COHESU, assisted in obtaining the project permission from the director of Public Health and Sanitation in Kisumu County (Appendix 1). Project authors applied and received small EU student mobility grand to conduct the project abroad from Laurea UAS. Travelling to project area, accommodation and living expenses during the project implementation was part of resource mobilization. Chernet and Riako (2023) published the project budget in their report as an appendix 5 on the page 67.

Project partners had a meeting in Kisumu before the implementation of the project. During the meeting the thesis project agreement was signed with the project authors and partner organization (Appendix 2). The project was implemented in partnership with COHESU and other project authors Chernet and Riako, in Kisumu sub-county hospital. Chernet and Riako (2023) from the Laurea UAS as the author, they published a separate report from this project and shared the workshop timetable as an appendix 6 on the page 68. The project included a one-day workshop (Appendix 3) with post-intervention data collection after the workshop.

Impact and intermediate outcome assessment included the evaluation of the workshop and the project as whole. Project was evaluated by using RE-AIM framework, which stands for Reach, Effectiveness, Adoption, Implementation and Maintenance. RE-AIM framework is one of the most used frameworks in the fields of implementation science and public health. (Gaglio, Shoup, Glasgow 2013; Gomes et al. n.d). After the workshop, project partners had a short meeting to go thru the financial expenses and the overall implementation of the project. Workshops feedback was received and the process of final report of thesis was started. This Thesis report was sent to partner organization, 14 days before the publication, for review and evaluation. Outcome assessment included publishing the both Theses in Theseus and article in Global Window-platform.

4.4 Study design

To understand people's experiences qualitative interviews, provide comprehensive and extensive information (Majid, Othman, Mohamad, Lim & Yosuf 2017). This study was qualitative cross-sectional study done by structured open-ended interviews to the key informants. Cross-sectional studies collect the data at one point in time and they are easy and inexpensive to implement (Wang & Cheng 2020). As being a study to master's thesis: time to implement the study was tied to study-right in the UAS and the study was implemented

with small budget, authors selected the above-mentioned method. Weller et al. (2018) described that to gain understanding in processes, to name potential causes to certain outcomes and to study a phenomenon in depth, open-ended interviews can be used as a data collection method.

Thesis topic analysis started with project partners from Laurea UAS in the beginning of January 2022 and thesis topic analysis was presented in February 2022. As previous studies had shown the TB and HIV-coinfection are still on the top five common causes of death in Kenya and many beliefs and cultural practices are existing in the region. As The WHO Regional Office for Africa (2013) emphasizes the necessity for multisectoral approaches and the importance of health promotion activities in tackling health challenges. Authors choose the topic and the region with the common interest and the need of study this topic in-depth. There have been many previous studies and health promotions on TB and HIV in Kenya, but these diseases are still a challenge in the region, a lot has been done but a lot can be done. According to the HBM, a person's behaviour connected to their health is determined by their desire to avoid the disease and their conviction that taking precautions would keep them well (Parwati, Bakta, Januraga & Wirawan 2021). HBM-framework was chosen as a framework for the study interviews because its' possibilities to offer this insight.

After the thesis topic analysis, authors of the project started searching for project partner and finalizing thesis plan. Request for ethical review statement concerning a research project-form from The Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences (2020) was filled and evaluated by the thesis supervisors, ethical review was not needed. Authors of the project presented their thesis plan in February 2023. During this time the thesis project agreement (Appendix 2) was signed with project partners and necessary permit was applied with the help of partner organization (Appendix 1). Interview questions (Appendix 4) were pilot tested before the study by few experts from Kenyan healthcare field during a Teams meeting and some modifications were made from the feedback to clarify the questions. In the qualitative research crucial process and helpful step is piloting interview because it helps to development the study and it improves the reliability and validity of the study (Majid et al. 2017; Shakir & Rahman 2022). The project was implemented in the end of February 2023 and data collected via recorded interviews.

PICo model stands in qualitative research for population, phenomena of Interest and context. PICo model was invented 1995 by Richardson et al. and it is one of the used frameworks for planning studies (Eriksen & Frandsen 2018). After the implementation of the project, study author had several meetings with thesis supervisor and study was developed further to suit the study aims to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers in Kisumu reported to benefit the infection prevention. New Spatial Determinants of Health-framework was chosen to analyse

the collected data further. Spatial Determinants of Health framework has a possibility to give new perspective to reporting and planning health promotions in Kisumu County.

Numerous factors, including an individual's behaviour, financial status, age, gender, cultural background, level of education, genetics, and the sum of all these things, can influence their health. Everyone lives in a specific geographical location, be it our home, our neighbourhood, our nation, or our home with relatives. At each geographical level, there are more people, cultures, laws, infrastructures, and environmental elements, all of which have an impact on an individual's health. The Spatial Determinants of health framework consider the interplay between these overly complex determinants and health. (Augustin et al. 2023.) Collecting data from socioeconomic, spatial, and demographic factors that affect the health and barriers to action are crucial to expose in order to implement health policies and promotions (Stevens et al. 2023). Implementing UHC must ensure it will benefit all the populations as Kenya's goal is to improve UHC from 52% to 100% (IHME 2022; National Treasury and planning, Kenya 2020; Stevens et al. 2023).

The table two introduces the PICo model for this study.

PICo- model	
P-Population	Service deliverers from Kisumu region
I-Phenomena of Interest	Cultural belief and customs related to TB/HIV in the region. Realization of SDH in infection prevention.
Co -Context	Qualitative cross-sectional study, open-ended interviews

Table 2: PICo-framework modified from Eriksen & Frandsen 2018

Thesis presentation took place in May 2024 and Thesis was published in Theseus. The thesis report was sent to partner organization, 14 days before the publication, for review and evaluation. In the next chapter sampling the key informants and data collection is explained.

4.5 Sampling and data collection

Total of fourteen key informants participated in the project and seven of them were interviewed to this study. The recruitment of the key informants was done via purposive sampling by the partner organization COHESU. They distributed participant information sheets (Appendix 5) in the local health facilities. Purposive sampling is the selection regarding researcher's inclusion and exclusion criteria considering being the most informative (Tenny, Brannan J. & Brannan G. 2022). Patino and Ferreira (2018) explain that defining these criteria is necessary and is standard practise in research. The definition of inclusion criteria is to define the key characteristics of the target population that are able to answer the research questions.

Inclusion criteria included service deliverers, they have experiences in the infection prevention, and have knowledge on the topic so they could offer valuable insight on the study aim and objectives. Ability to speak and write English was chosen as an inclusion criterion, the study was implemented in English and translating it to Kiswahili or other local language was not feasible due to time and budget related issues. Other inclusion criteria included the willingness to participate in the research project and being over 18years of age. Table three demonstrates the inclusion and exclusion criteria in the study.

Inclusion in the study	**Exclusion from the study**
Key informant from service deliverers. (healthcare worker, pharmacist, community healthcare worker)	Patients or community members
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

All the seven study participants had service delivery background, key informants included nurses, pharmacists, nutritionists, clinical officers, and community health workers. The interviews were conducted after the health promotion workshop after authors had received anonymous the participant consent (Appendix 6) from the key informants. Chernet and Riako (2023) conducted their own interviews to their own key informants who were representative community members. Interviews were recorded with a Laurea UAS's recorder. The recorded

data was then transcript into written text to a word document and this formed seven pages of data with the font Calibri, font size 12 and lining 1.

4.6 Data management and protection

The European Union General Data Protection Regulation (GDPR) is privacy law to protect the personal data of the individuals in European Union. GDPR defines personal data as all data that is related to identify individual indirectly or directly. Coded data: Pseudonymized data is also under GDPR. Anonymized data is often used to fulfil these regulations. Data is anonymized when all direct and indirect identifications are removed, and researchers ensure the data cannot be re-identified. (UCI Office of Research 2024; Office of the data protection Ombudsman n.d) This study was implemented outside of EU, but Laurea UAS as a Finnish higher education institute has committed to implement the EU regulations. This study did not collect any personal or sensitive data like names, contact details or diagnosis or health conditions of the participant, but it collected the recorded voices of the key informants and so it used personal data.

This study collected pseudonymous interview data from seven key informants of service deliverers. Questions were coded Q1, Q2, Q3, Q4, Q5 and every key informant was coded S1, S2, S3, S4, S5, S6, S7 to able to process the thematic analysis of the data.

Data Management is from collecting, protecting, managing, restoring, and destroying the data (Office of the data protection Ombudsman n.d). The interviews were audio recorded via secured Laurea UAS's recorder and the recordings were saved in the memory of recorders. Recordings were stored for the student for data analysis and only the student had access to the collected data until analysis. Data was deleted after the pseudonymized transcription and publication of the second thesis report – scheduled for 5/2024. GDPR guides that study participants must be informed about the processing and management of the data (UCI Office of Research 2024). Participants were informed of the use of the data and the management of it in the participant consent form (Appendix 6).

The thesis report was sent to partner organization, 14 days before the publication, for review and evaluation and for the benefit of participants and community. Thesis was published in Theseus repository which offers online thesis and publications of Finnish Universities of Applied Sciences (Theseus n.d). A presentation of the project was published also in Global Window- online platform.

4.7 Data analysis

The data was analyzed by thematic analysis methods. It is a method in qualitative research for analyzing, describing, identifying, and reporting themes and their meaning and connections, which are found in the data set. Thematic analysis offers flexible approach, that can be modified to different studies, and it is also giving a rich and complex study of the data. Thematic analysis is useful to "young researchers" and to summarizing main points of a large set of data. It offers well-structured approach to go through the data. (Nowell, Norris, White & Moules 2017.)

Data was first analysed by taking inductive approach, analysing the interview text answering to the questions what kind of cultural beliefs or customs related to TB and/or HIV did the interviewees describe as having local health service users and what kind of culturally sensitive means the informants used or consider possible to using when guiding TB and HIV-positive clients. Elo and Kyngäs (2007) explain that inductive approach is driving categories from the data moving from specific to more general. Firstly, categories are observed and then combined to larger or general statement. Inductive analysis makes sure the voice of participants is heard and study aimed to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers in Kisumu reported to benefit the infection prevention, inductive approach offers the best approach to the study aim and earlier mentioned objectives.

Secondly data was also analysed deductively according to the Spatial Determinants of Health -framework. Deductive approach is based on earlier theory or model, and it gives the possibility to test and compare data to already existing theory or a model (Elo & Kyngäs 2007).

Nowell et al. 2017 describe six steps to process thematic analysis to qualitative data. In the table four these steps are explained and how it was conducted in this study.

Six steps in thematic analysis	Realization in the study
1. Familiarization of the data Read and re-read of the data	After 7 interviews were conducted the recordings were transcript to written text in Microsoft Word document. This provided 7 pages of data. Recordings were listened to multiple times to assure the validity. Data was read through many times to familiarize with the data 3/2023 – 1/2024.
2. Generate initial codes Code interesting features of the entire data, collating to relevant to each other	From the data were overlined all the information which were given answers to the objectives 1 and 2. The data was then coded according to the information in the data: Cultural awareness they have this place mostly is a provision of health talks in chief Barazas, → Code: Health talk in Barazas Total of 64 codes were formed from the data.
3. Search the themes Codes into potential themes, collect the data into relevant theme	Codes were then collected according to the similar nature and into a different document and table. Total of 9 themes were analysed.
4. Review the themes Checking the themes	Codes and data were read through and made sure the similarity/topic was valid. Duplications of codes were removed.
5. Define and name themes Clear definition and names for themes	Collected codes = themes were named. Codes: TB is curse, TB/HIV is Taboo, Witchcraft or curse, TB being death sentence, Inheritance about TB/HIV infections, Cultural and religious beliefs, Traditional/Cultural beliefs TB/HIV is curse/taboo, TB heritable -> Theme: Traditional explanations for the origin of the diseases.
6. Produce the report Coherent and logical analysis of the data within the themes and across the themes	The final report of the data was produced 1-3/2024. Chapter 5, Results were written with the guide of COREQ-checklist.

Table 4: Six steps in thematic analysis and the realization in the study modified from Nowell et al. 2017

After the inductive analysis of the data, a deductive analysis was carried out. The Spatial Determinants of Health and the scales were transferred to a table on the left-hand side and the data were then collected in full on the right-hand side. The data was analysed using different colour-coded categories into which the spatial determinants and macro-scale responses fitted. After the analysis, the report on the results was written. The table five demonstrates a part of the deductive analysis.

	SPATIAL DETERMINANTS OF HEALTH	DATA
MACRO SCALE GLOBAL NATIONAL ********** MESO SCALE REGIONAL LOCAL ********** NEIGHBOURHOOD ********** MICRO SCALE HOUSEHOLD **********	 Global driving forces Policy and governance ********** Sociodemographic and economic conditions Living and physical environment Cultural and working conditions ********** Healthcare services ********** → Individual characterics → Individual health status **********	S1: 1.We have beliefs about the cohesion between HIV, TB and beliefs. Cultural practices like where I come from; people believe that for women they say like after you lost your husband you must be inherited and, in a case, where don't go for HIV test between their wives and now they inherited this case. So, these are cultural practices, that because actually contributed to HIV at the same time, even HIV screening has not been embraced. Because of cultures, people believe TB is actually more like a curse. (S1) 2.Yes, we have herbal medicines that are given by the traditional healers. This has actually contributed a lot to where people believe that If you have a cough that has persisted for more than two weeks, which according to us could be suggestive of dealing of TB, they resort to herbal medicines and herbal concussions. (S1)

Table 5: Part of deductive analysis according to the Spatial Determinants of Health-framework (Augustin et al. 2023)

Reporting this study was guided by COREQ-checklist. Tong, Sainsbury, and Graig (2007) developed COREQ-checklist to explicit and comprehensive reporting for qualitative studies. COREQ-checklist can be used in reporting interviews and focus groups.

5 Results

5.1 Cultural beliefs and customs related to TB and HIV

The service deliverers reported quite a few cultural beliefs and customs that the local health service users have. Traditional explanations for the origin of the diseases that TB and HIV is heritable, curse and result of witchcraft were also reported. Both TB and HIV diseases were considered sensitive topic, as taboo, a topic that not acceptable to say or talk about. Some local service users believe that TB is death sentence.

> Sometimes in the community people think that having TB or HIV is something like a curse or something like a tabu or something like a Witchcraft…in the community who think having HIV or having TB is a curse. (Q3S2)

> Who used to think they are cursed, or TB is heritably in their community and in their home, because they saw their grandfather had tb and their grandmother and now their grandchildren. So, they see it is heritably, not knowing it is because they are sharing the same environment .. (Q4S7)

Herbal medicines and traditional drugs threating these diseases was also acknowledged. Some people seek first to treat the symptoms with herbal medicines and visiting the traditional healers. Local herbs, like “dawa drink” made from lemon, ginger and garlic was reported to be used for treating the cough. People first seek help from traditional healers and

pharmacists and do not go to a health centre at the right time. These herbal medicines have an impact on HIV medicines.

> There are people, clients who believe that people can give them herbs to treat TB and HIV. Thought it is not scientifically proved but some of the people odd to go for the herbs, some, not many. Like there was a time in near border Kenya, Tanzania, Loliondo. There was a Loliondo man who was giving herbs to the HIV clients. So, most of the client stop taking medication and went to Loliondo. After sometimes they start having opportunistic infections. So, when they came to the health facility, they are now sick, the virology is high. After consultation we found out the client had stopped taking medications and had gone to the Loliondo man. (Q2S2)

> There is a lot of these herbal medications that are known, but I am not sure of which ones.. but yes there is this going on in the community and it really needs a involvement of the medical team and the community to work it out. Yes, there is herbal medications but thou they don't really treat the HIV as the community puts it. In fact, the herbs, the ARV's, they affect the ARV's. (Q2S6)

> Treatment for TB but what people think might help, sought the cough. That is just like a lemon juice, ginger, some people put garlic. They believe it can help them to sought the cough. (Q2S7)

Cultural practises like wife inheritance were seen contributing the spread of HIV and TB. HIV testing between the husbands was not embraced. In Kisumu area most of the cultural practices like funerals are kept during the night and this was seen also a risk factor for HIV infection, because people are practicing unprotected sexual intercourse. Religious beliefs like going to the church to be prayed and not attending to the health facility. Locals also visited spiritual healers for treating these diseases.

> We have beliefs about the cohesion between HIV, TB, and beliefs. Cultural practices like where I come from; people believe that for women they say like after you lost your husband you must be inherited and, in a case, where don't go for HIV test between their wives and now they inherited this case.. (Q1S1)

> Like in a funeral, people are consented in the funeral most of the cultural practices specially in this area are done during the nights. So, during the nights people are having unprotected sexual intercourse. (Q1S2)

> Cultural practices like praying and not attending to health facilities. Like you find a client who has been infected with TB might opt go to church. Believing that after attending those church services he will be healed and not going to hospital. And then you might find that somebody is infected with TB or HIV and is using the traditional drugs like the herbs instead of attending. I think that is also traditional or cultural practice. (Q1S5)

> So, then you find out they have been going first to the herbalist, they have gone to be prayed from some spiritual healer. So those really are barriers in our community. And also, the traditional/cultural beliefs: they think it is a curse, taboo. Those are barrier for us reaching the clients in good time. (Q3S7)

Poverty and adherence for taking the medications was reported also as a local custom. Some of the patients are suffering poverty, when there is no money to buy the food and the

medicines should be taken with food affects the adherence for taking the medications. Denial to the diagnoses, withdrawing from the care and declaring medications was also reported by the service deliverers. Hospitals not being opened during the weekends was also seen affecting the locals' habits to seek care. They are seeking help first where is it available like local pharmacy and local clinics. It was pointed out that not all the clinics are registered.

> Also have the patients that when you diagnose them with TB. In their mind they think it is HIV. So, they log it TB is HIV. There is no line between these two according to this client so... when the patient feel like this is HIV, they tend to withdraw, self-stigma and they do not want now to relate. They even declare medications. There has been patient who have declared: "How can I have TB, which is not me." Some we reach, they manage to come part, but there is those who declare permanently. (Q3S7)

> Poverty..Poverty..To explain this, you find out that someone a patient from the community do not even have food. Now this patient will ask you: "How can I take this medication without food?" So, poverty is one. (Q3S6)

Five themes were analysed as cultural beliefs and customs related to TB and HIV from the interviewee's answers: traditional explanations for the origin of the disease, herbal medicines and traditional healers, cultural practices, religious beliefs, poverty, and adherence to treatment.

5.2 Culturally sensitive means to guide TB and HIV-positive clients

Local service deliverers had many ideas how to guide TB- and HIV-positive clients in culturally sensitive manner. Four major themes raised from their answers: education and engaging the community, addressing the traditional healers, identifying sick ones and reduction of stigma, or increasing adherence to treatment, voluntary testing, or non-governmental support programs. One service deliverer noted that there are no currently culturally sensitive ways for improving awareness to these diseases.

> I can say currently there is no cultural practices which are done for awareness and for creation or improving TB, HIV infection not improving but what can I say it is because HIV and TB to increase. (Q1S2)

Education and engaging the community was found as one of the biggest themes. Education or session was mentioned ten times in the data and community was mentioned 30 times by five of the seven key informants. Service deliverers reported that educating the community in the cultural events like funerals, weddings and circumcision are culturally sensitive means to increase the awareness. The importance of community health volunteer was also praised. Community health volunteers reported knowing their clients and they can identify the sick ones in the household and referral them to the hospital. Service deliverer expressed that; the education should be offered in the local language. Reaching out the community and addressing the health promotions on the caps of knowledge and awareness of these diagnoses in the community. They considered that the education topics should include the duration of

the TB and HIV treatment and prevention, transmission and medication and changing the belief that TB is death sentence to TB is curable.

> When we give to the community the right education, to the right people in the local dialect and note that TB is treatable when identified and diagnosed on time. (Q4S3)

> When we talk about cultural what will make them to take the TB treatment or come for TB treatment. Awareness we have community health volunteers in every community, and they know their clients. They know each and every one from the village. So, they are able to identify if there is a sick one in the household. (Q1S4)

> We would just create awareness, teaching people about HIV, teaching people about TB. Telling people that TB is not a death sentence and the risk for TB and even for HIV if you take your drugs well you are there well for the treatment then you live long. So, it is a matter of creating awareness, counselling, teaching and follow- up. (Q4S4)

The informants noted the health talks in chief barazas, for the elders or the village administrations are culturally sensitive ways of creating awareness. Assessing the whole family after TB or HIV diagnosis was also mentioned by the service deliverers.

> So, the cultural practices for awareness creation and improving TB and HIV coinfections. Cultural awareness they have this place mostly is a provision of health talks in chief Barazas, they are the area administrations. So, we create awareness when they have a meeting or come together for the elders or the village administrators. So, they are trained with the healthcare providers who tells them the signs, the symptoms and how the disease presents itself. The other places are on funerals. In the African setup we have the burial day where the people come together and, in such events, they can be enlightened on the risk factors of TB, the mods of transmission, the mods of prevention, duration of the treatment and the main factor is that TB is treatable. (Q1S3)

> The TB I think like addressing can be done in a family where let's say people are staying with five or ten people even. Once there is more than two. The moment when one of the family members is tested positive with TB the other people I think should also be tested so that you can assess have the person already accrued with TB or not. The same is to be applied with HIV also. (Q4S5)

According to service deliverers culturally sensitive ways to guide would also be, to address the spiritual/traditional healers, herbalist and engaging religious and community/local leaders. Service deliverer noted having a partner in Kisumu who was helping to reach out the pharmacy and local clinics and having sensitizing sessions with them. Another partner was reaching out religious and traditional leaders and quarterly meetings was kept. Pharmacists are able to collect the TB diagnostic samples and rider transports these to diagnostic side.

> So, what we have been doing in Kisumu, we have had a partner who have been helping us to reach out for the chemists and these local clinics. So we call them in a meeting, we sensitise them, so if client have a symptoms of TB, they should take a sample for TB test. And the samples at the chemists we have riders who now go for that sample and take the sample to the GenExpert to the

> diagnostic side. Again, we used to have another partner who reach out for the religious leaders, The traditional healers we also had some sessions with them. And we used to do quarterly meetings with them, and they could refer clients. So, we manage to reach out to the traditional healers, chemist owners, spiritual leaders, but not much. Maybe that is something we can venter into. (Q4S7)

It is important to reduce the stigma of HIV and emphasize early defection, identifying the sick ones in early stages. One service deliverer pointed out that there is no stigma anymore to TB only to drug-resistant TB and the major stigma is coming from HIV. The key factor is to maintain retention of keeping stigma and infection rates low.

> Barriers for TB, generally we don't have barriers, because the patient we accounted is not stigmatized for TB. The major Stigma comes from the HIV part. Is where the patient is stigmatized. So, for TB is not so much barrier but maybe the barrier arises for the case of drug-resistant TB where the patient is confined at one place maybe his home and healthcare worker provider the direct therapy. When the patient is confined that is when we can experience barriers. or maybe the patient can be… we might have a hide and seek experience with the patient when visiting the patient daily. The community may start wondering why this patient is visited daily by the healthcare provider. So, for the multidrug resistant TB is not so much stigmatization but it is not much. But for HIV the stigma is there, but with the current education is there it is going down. For the HIV barriers. The other barrier I can say, is the stigma that is affecting locally currently. (Q3S3)

> Also, for the HIV coinfection been that the stigma levels are going low, much is been done and also much can be done on the scene. The infection rates are going low, the stigma rates are going low now we only working on retention. Retention and prop tension for the cultural parts. (Q1S3)

Adherence and the endurance for the treatment could be improved with follow-up check-ups. Voluntary testing for HIV and TB was expressed seven times by the service deliverers in the data. Stopping the spread of these diseases could be achieved with efficient and regular check-ups. One service deliverer also noted that government does not sponsor much nutritional for the patients. Gratefulness to NGOs support foods and foundation plans and offered courses about the topics was mentioned.

> Then the nutritional part the government does not sponsor much but now the local NGOs they support them with their foods and foundation plans… They have a course…. They are very main for the patient diagnosis part which we are very grateful and for those who are not able to support themselves with the food. (Q2S3)

> Community needs to know how to prevent having TB and HIV infection. Community needs to know the importance of using. Going for diagnosis when having symptoms of TB also they need to accept to be tested for HIV. After that community needs to know the importance of taking TB medication correctly and do the follow-up sputum's so they can prevent TB to their household or all other people around them. And also for the HIV they need to know their HIV status, they need to know the importance of takins RAVs that they can reduce the changes of transmission and they can improve their life health. (Q4S2)

5.3 Spatial Determinants of Health in infection prevention

Service deliverers expressed few things from the macro scale for the SDH the infection prevention. The global driving forces and policy and governance raised few times in the interview data. The informants considered possible to standardising workable global practices in infection prevention for TB and HIV, because these diseases are the same in Kenya and other places. Service deliverer expressed that sharing global experiences may help to identify the shared best practices for infection prevention and benchmarking Finland's guidance for dealing faulting TB client was seen a possibility to improve Kisumu's service delivery. The service deliverer reported that the Governance is not supporting much nutritional support for the clients. They identified that currently the NGO's are offering this support to the patients. The service deliverers said:

> TB and HIV in Kenya is the same HIV and TB in other places. We need to do the standard thing which can work, implement in both areas. (Q5S2)
>
> We learnt how people are being treated in Finland and how seriously TB is taken in Finland and how we could co-operate that in Kenya. (Q5S4)
>
> We could also do a benchmark because you told us a lot, how you deal with a faulting TB client, which we don't do it here. But now maybe we could benchmark what you do, it could be improved our service delivery. (Q5S6)

On the meso scale in the SDH regional determinants like sociodemographic, economic conditions and living and physical environment was not found directly in the data. Economic conditions present at various levels, all the local clinics are not able diagnose TB (no equipment) and most of the clinics do not operate during the weekends. Economic condition of the nation effect also the support what government is offering to the patients. Local determinants include cultural and working conditions and these were expressed to be cultural practices like wife inheritance, traditional explanations for the origin of the disease, TB is outcome of a curse or witchcraft. Traditional, spiritual healers and herbal medicines are also cultural practices which are cultural determinants for health in the region. Religious practices like attending to church for prayers and not attending to the health facility was affecting infection prevention negatively. Chief barazas and community health volunteers are examples of cultural practices which can improve infection prevention and addressing the traditional, spiritual, religious leaders in the sensitising meetings. Under the living conditions poverty and some community members being illiterate is reducing adherence for the treatments. TB and HIV medications must be taken with food and if a patient does not have money to buy the food, it is decreasing the adherence for medication. Local factors include neighbourhood and provide healthcare services either improve or deteriorate infection prevention. Local community health volunteers know their clients and they are able identify the sick ones and refer them to the hospital. Most of the facilities in the Kisumu County don't operate during the weekends and this is causing delayed diagnosis and people seeking help elsewhere like

local clinics which some are not registered. Distance for diagnosis centres had been battled with riders who collect the samples and bring them health facility where is GenExpert diagnostic side. Meso scale SDH were earlier mentioned on the chapter 5.1 Culturally beliefs and customs related to TB and HIV.

Micro scale SDH include determinants household, individual characteristics, and individual health status. From the data these determinants raised already in the local determinants of health, but these can also see being household and individual determinants. Living conditions like poverty and being illiterate can strongly be just determinants of the household or the individual. Cultural practices and beliefs also vary from individual to individual.

The table six demonstrates SDH in the data.

Spatial scales	**Spatial Determinants of Health in the data**
MACRO-SCALE Global and national	-Global working practices in infection prevention -NGOs' nutritional support -Government not supporting much nutritional assistance for the patients
MESO-SCALE Regional and local	-Most of the health facilities do not operate during the weekends -Local clinics, which some are not registered -Traditional explanations of the origins of the diseases (curse, witchcraft) -Wife inheritance -Funerals are kept during the night -> people practice un-protected sexual intercourse -Stigma to these diseases -Traditional and spiritual healers, herbal medications -Religious beliefs, attending to church for prayers. -Chief Barazas, CHV -Offering health education in local language in cultural events. (funerals, weddings, circumcision)
MICRO-SCALE neighbourhood, household	-Poverty, illiterate -Cultural practices and beliefs of the individual (Meso scales SDH)

Table 6: Spatial Determinants of Health in the data

6 Discussion

This study aimed to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers reported to benefit the infection prevention. Study objectives included to reveal the cultural beliefs and customs of Kisumu people related to TB and HIV informed by service deliverers working in Kisumu County and to reveal the culturally sensitive means to guide TB and HIV-positive clients. Assessing the realization of the Spatial Determinants of Health in the infection prevention the Kisumu service deliverers reported was also one of the study objectives.

The analysis identifies some cultural beliefs and customs related to TB and HIV and also the culturally sensitive means for guiding these patients. Service deliverers reported existing cultural beliefs and traditional explanations for the origin of the diseases, TB being results of witchcraft, curse and the TB and HIV topic being a taboo in the community. TB and HIV were seen inherited and stigma to these diseases were still accurate reported by the service deliverers. Threating these diseases by visiting traditional, spiritual healers, and religious leaders as well as local clinics and pharmacies were also current custom among the local people. The study findings for cultural beliefs and customs A-line with the previous research. Mbuthia, Olungah and Ondicho (2018a) found in their study the same treatment pathways herbalism, traditional healers, private clinics, and pharmacies. Their study was conducted six years ago, and same traditional explanations for the origin of the diseases were still present that TB is associated with witchcraft, curse and TB is inherited. Chernet and Riako (2023) found the same cultural beliefs and customs in their study from the same project. This verifies the study results and increases the trustworthiness.

Culturally sensitive means were to address community in the local language and create awareness in the cultural events like funerals, weddings, and circumcision. CHVs work and health talk in barazas was also mentioned by the service deliverer as culturally sensitive ways of creating awareness of TB and HIV. Addressing and sensitising traditional, spiritual healers and also the religious leaders were culturally sensitive means that have the possibility to benefit the infection prevention.

Study results for cultural relevant means for guiding TB and HIV positive clients supports the Kenyan Government’s community health strategy. Kenya’s vision 2030 prioritize community health which was well noted by the service deliverers. CHV knows their clients which improves the early diagnosis. Offering education for the community in cultural events in the local language is empowering the community and is culture-sensitive health communication reported by Betsch et al. (2015). Addressing traditional, spiritual healers and religious leaders and offering health education in cultural events are examples of culture-centred approaches.

Dutta (2008) explained that culture-centred focuses on an effort to developing ideas and applications from inside the culture.

The conducted interviews were formed according to the individual centred Health Belief-model, but responses were community oriented. The service deliverers assessed in their answers SDH in the infection prevention. Globally working infection prevention measures could be implemented locally and government support should be increased. Service deliverer expressed that TB and HIV are the same locally and globally, but based on studies the cultural interpretations of the diseases are not the same. Locally the open hours of the hospitals are affecting the people health seeking habits. Individually poverty, illiterate are affecting the adherence to treatment.

Augustin et al. (2023) express the individual's health is influenced variety factors and culture and individual factors are only one part of them. Global, national, local, neighbourhood and household determinants for infection prevention were able to be identified from the data. This indicates the importance of the Spatial Determinants of Health- framework and Leininger's CCT. The CCT theory recognizes the inside and outsider view of health and environmental aspects which influences health (Pare 2021; Leininger 2002). Interview questions did not include direct questions about SDH to infection prevention but collected data expressed many of these determinants.

This study was a small-scale study with only seven key informants, and this can be seen as study limitation. The study results cannot be generalized to wider population. This study reported cultural beliefs and customs in Kisumu region and cultural relevant means for guiding TB and HIV positive clients and this gained information can be used for implementing health promotions in the region. Analysing the data with a new, 2023 published Spatial Determinants Health-framework offered new information, reporting for the region's infection prevention in the topic. Framework being just published the previous studies of the framework were still missing, so the theory base for it was very limited to only one published article. Author sees based on this study that the Spatial Determinants of Health -framework gives a holistic approach to and SDH are acknowledged by the local service deliverers. Open-ended interviews and inductive analysis method made sure the informants voice was heard.

6.1 Evaluation of the project

There are many frameworks for evaluation of interventions. RE-AIM framework stands for Reach, Effectiveness, Adoption, Implementation and Maintenance. It was developed in the year 1999 and it can be used in all stages of the research from planning to evaluation and reporting. RE-AIM framework is one of the most used frameworks in the fields of implementation science and public health. (Gaglio, Shoup & Glasgow 2013; Gomes et al.

2024.) Onono et. al (2018) used RE-AIM framework in evaluating the integrated community case management in Kenya and it is widely used in evaluation of projects.

In the end of the interview also feedback from the key informants were collected. In the following chapters evaluation of the intervention study by using RE-AIM framework and the feedback of the project is presented.

6.1.1 RE-AIM framework

RE-AIM FRAMEWORK	**PROJECT**
Reach	Reached total of fourteen key informants. Did not reach community members. All key informants had healthcare or service deliverer background.
Effectiveness	Effectiveness was not measured. Only the feedback from key informants was collected.
Adoption	Adoption to the project not known. Recruitment done by partner organization.
Implementation	One day workshop in Kisumu County, minimal budget.
Maintenance	Project can be implemented again by the partner organization.

Table 7: Re-aim evaluation of the project

Reach stands for the target population and the equity of the participants (Gomes et al. 2024). Project reached total of fourteen participants, which all of them had healthcare background. They were pharmacist, doctors, nurses, and community health care workers in other words service deliverers. Project did not reach community members, which could have increased the depth and heterogeneity of the collected data. Other study from this project collected data from key informants representing community (Chernet & Riako 2023).

Effectiveness is evaluated in the individual level (Gomes et al. 2024). Effectiveness of the project was not measured due to the nature being educational health promotion with qualitative research about cultural aspects. Feedback was collected from the participants after the health promotion and majority of them were satisfied with the context of the workshop and expressed the health promotion reminded them with valuable information about TB and HIV-co-infections. The possibility to share cross-cultural knowledge and experiences were praised by service deliverers. Recommendations for improving the health promotion was given and these are presented on the next chapter.

Adoption of the project is un-know because recruitment of the key informants was done by the partner organization COHESU according to the exclusion and inclusion criteria with purposive sampling.

Implementation of the project was done in Kisumu sub-county hospital. Partner-organization booked the place and project authors' rented projector and offered refreshers to the participants. Project was done with minimal budget, project authors received small EU student mobility grand to conduct the project abroad from Laurea UAS. Health promotion workshop was using communication tactics, which emphasize open dialogue. Study participants were sharing how TB and HIV patients are treated in Kenya and project authors shared their experiences from Finland's healthcare system. According to (WHO 2022b) allowing discussion and dialogue leads to increased knowledge, awareness and to critical thinking.

The kept workshop and PowerPoint presentation (Appendix 3) was shared to the project partner in mind of the maintenance of the project. Partner organization can implement the project again. Table seven presents the RE-AIM evaluation of the project.

6.1.2 Feedback from the workshop

All seven study participants gave positive feedback about the content of the workshop but also some recommendations for improving were given. They expressed the workshop have a potential to increase knowledge about TB and HIV. Participants expressed the need for similar health promotion workshops in addressing these health challenges.

The workshop was providing a platform for cross-cultural exchange. Sharing experiences from Finland and Kenya gave participants valuable insights how these diseases are threated in other countries. Participant pointed out the possibility for collaborations and adapting the best practices from other countries to improve health practices in Kenya.

> What I liked from this workshop is at least, the people the students who comes outside of Kenya, they shared their experience on TB and HIV and also, we shared our experiences on TB and HIV. That was a very good thing, because TB and HIV in Kenya is the same HIV and TB in other places. We need to do the standard thing which can work, implant in both areas. (Q5S2)

Workshop participants regularly came across the workshop topics due to the nature of their work, but the workshop acted as a refresher on the topics and a reminder of best practise. The culture of continuous learning and education on TB and HIV is important in the fight against these diseases.

> Workshop has been beneficial as it has opened our minds and like reminds of the means and facts of TB and HIV. We practice them daily but when you are reminded it clicks. But when recommend the workshop it also has us to go back

> to school and study for the workshop in seen. The only thing is to talk also about the TB treatment drug faces. There are not any cons the workshop was successful. (Q5S3)

Recommendations for improving the workshop was suggested the length of the workshop could be expanded and include community members. Including them could offer local viewpoints and deepening the understanding of the needs of the community about TB and HIV prevention, transmission, and treatment. This has the potential to uncover gaps in knowledge and adjust health promotions to the need of the community, achieving more effective health promotions. Expending the length of the workshop could give space to explore these topics in deeper context benefiting both participants and their communities.

7 Ethics and research integrity

Ethics is crucial in research, and it applies to all studies, regardless of where the study is conducted. In this chapter the ethical and legal considerations will be explained and the trustworthiness of the study.

7.1 Ethical and legal considerations

Before beginning any research with human volunteers, ethical permission must be obtained. Ethical reviews are not always required. Ethical review is performed in six main study cases: divergence from informed consent, interference in bodily integrity, minors as subjects, severe stimuli, mental damage, and a security concern. However, if participants are exposed to extremely intense stimuli or if their physical integrity is compromised, the research must examine if it is putting them in risk or causing them mental injury. Alertness is required while focused on minors under the age of fifteen, or when sensitive questions are posed. (The Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences 2020.)

Personal information should be managed with care. Research participants must always be informed of the nature of the study. In the situation study collects personal information requires ethical review. Prior to beginning the research, an ethical evaluation is conducted. The goal of ethical evaluation is to assess the ethical hazards that the study design may offer. Ethical review cannot be done later; thus, it is critical to complete it before we begin collecting study data. Any ethical problems raised throughout the study process are always the responsibility of the researcher. Research funder and publishers frequently want ethical evaluation as well. According to recommendations, ethical review is not always required for the implementation of health promotion, particularly when minors and vulnerable people are not involved in data collecting and personal information is not gathered. (TENK 2021.)

The Request for ethical review statement concerning a research project-form from The Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences (2020) was filled and evaluated by the thesis supervisors. This study did not require an ethical review because no personal information, other than the recorded voices of the informants, was collected. These recorders were pseudonymous. This study did not cover the above-mentioned grounds for the need of ethical approvals from The Human Sciences Ethics Committee of the Helsinki Region Universities of Applied Sciences (2020) or The Finnish national board of research integrity. (TENK 2021.) This thesis followed the ethical guidelines established by the Finnish National Board of Research Integrity (TENK). The thesis project agreement was formed with the Laurea UAS students Chernet, Riako and author with the project partner from Kenya COHESU (Appendix 2), who subsequently assisted in obtaining the project permission (Appendix 1) from the Director of Public Health and Sanitation in Kisumu County from County Government of Kisumu under the Department of Medical Services, Public Health and Sanitation. Approval to implement the study was received from Thesis supervisors and supporting letter obtained from the head of Masters of Global health and Crisis management-study program from Laurea UAS.

Before the health promotion participants were given information about the workshop (Appendix 5) and the study and the data management plan, and they gave anonymously agreement (Appendix 6) to participate in research. Participation to the study was voluntary and the study intended to do no harm. The project authors were all present in the health promotion and the interviews were conducted by them, so they were able to assure the information reached the participants and the pseudonymous transcription of the data was secured. Interviews were kept one by one in separate room. Confidentiality of the study was achieved by making sure only the author was able to reach the recordings and these were deleted after the publication of the Thesis.

Fraud and fabrication are examples of unethical practices that are defined as research misconducts in The European Code of Conduct for Research Integrity (2017, 8). Research misconduct includes fabricating results and reporting them as true, as well as tampering with materials or procedures without authorization. Plagiarism is the use of another person's words or ideas without properly citing the original source, infringing on the original author(s)' rights to their creative works.

This thesis report was second report from Health promotion project for TB and HIV co-infection in Kisumu -Kenya. The author of this study participated construction of the theoretical background and plan and was part of the implementation of the entire project. The first report of the project “Culturally Sensitive Ways to Increase Awareness and Improve Health-seeking Behaviour; Health promotion project for TB and HIV co-infection in Kisumu, Kenya” (Chernet & Riako 2023) was published in September 2023.The total number of key

informants participating of the study and project was fourteen. Author of this thesis report interviewed seven of them and the collected data formed the data of this study. The results and outcomes of the studies are remarkably similar due to the nature of the key informants: every participant had education in healthcare or medicines. Author of this report used the texts of the theory base and plan written by the author.

7.2 Trustworthiness

Nowell et al. (2017) explains trustworthiness criteria in qualitative research: Credibility, transfer-ability, dependability, confirmability. Reliability and validity of the data increases when all the criteria are fulfilled. Romain (2015) describes that conflict of interest lies in situations where the professional decisions and actions are at risk to be influenced by secondary interest like career achievements or financial gain. The resultant bias may happen consciously or unconsciously. Author of this study reports no conflict of interest, author did not have any ties to the partner organization before the implemented study.

Credibility can be achieved by prolonged engagement to the data and persistent observations (Nowell et al. 2017). Author of this study used one year to the data analysis and finalizing the thesis report. Data was re-read multiple times, and the analysis was peer debriefed by work colleague and thesis supervisor to provide external check on the process. The risk of biases for data analysis were minimized with the external checking of the analysis. Visiting Kisumu County, the awareness of the key informants and their sharing´s were confirmed. The project was carried out by the project authors and the interviews and data collection to this study were carried out by the author.

Transfer-ability means the generalization of the study, and this can be achieved by providing detailed descriptions (Nowell et al 2017). Author of this study provided detailed description of the development process and the methods used and the justification of the used methods in the chapter 4. Dependability in quantitative research is achieved when the research process is logical and traceable in other word clearly documented and justified (Nowell et al. 2017).

Confirm-ability is achieved by demonstrating how conclusions have been made and justified that findings are from data. Confirm-ability increases when the reasons for analytical, methodological, and theoretical choices are clearly documented. (Nowell et al. 2017.) Confirm-ability to this study was achieved with many quotes of the data and as well explained methodological, theoretical, and analytical choices in the study design chapter. Similar results were gained from both studies conducted after the health promotion and also from the previous studies on the topics.

8 Conclusions

This chapter will conclude the thesis results by summarising the key findings from the study why it is valuable and how it can be applied in the field of Global Health and recommendations for further research.

This study aimed to reveal cultural beliefs and customs of people living in Kisumu County and the culturally sensitive means the service deliverers in Kisumu reported to benefit the infection prevention. Service deliverers reported cultural beliefs TB being a curse or a result of a witchcraft and cultural customs patients visiting traditional, spiritual healers and also religious leader for threating these diseases. Local clinic and pharmacy were also mentioned being one of the first sources to seek care. Cultural habits like wife inheritance and cultural events happening during the night increased the risks of HIV transmission. Bigger family sizes also increased the risk of TB infection from a positive TB client. Acknowledging and knowing the local and cultural customs and beliefs helps the local service deliverers to address the health promotions and health educations to the needs of the community. Nationally and locally it also guides the policy makers for infection prevention. Offering quality diagnosis also during the weekends and solving limited resources with laboratory-sample-drivers are one of the key factors to battle delayed diagnosis. Infection prevention needs to be addressed to the community to its customs and needs. Offering health education in local language in cultural events like weddings, funerals, and community-health dialogues Barazas and as well as emphasizing voluntary testing are culturally sensitive and relevant to address infection prevention in the area where the incidence rates are high in TB and HIV. Sensitizing traditional, spiritual healers and religious leaders about infectious diseases are also culturally sensitive way of awareness creation. As found in Abukar et al. (2013) study the fathers' and elders' opinion affect the health seeking behaviour, and this can be addressed as this study indicated by sensitising the village administration the elders.

Cultural competence is respecting different cultures, and this involves culture awareness and knowledge (THL 2024). These skills are needed by the service deliverers in the global world and multicultural environments. Culturally sensitive service deliverers increase the patients' adherence to provided treatments and culturally sensitive community-based health promotions have a greater impact (Tucker at al. 2012). This study achieved to reveal cultural beliefs and customs and also culturally sensitive means to infection prevention. Study findings are valuable to improve health promotions more culture-centred and these can be applied in local area for achieving effective health promotions. Study also improved author's cultural competence and skills.

The field of global health is closely linked to cultural awareness and cultural competence. From the Spatial Determinants of Health to infection prevention, each continent, country,

and territory has its own characteristics that need to be considered and recognized in order to achieve effective health promotion outcomes and better UHC and policies. A further recommendation for research is to pay more attention to these SDH for infection prevention through ethnographic research in this area and to use this data to develop health promotion interventions that are more culture- centred and culturally sensitive, thus increasing both local and global cultural competence in infection prevention. Locally it is important to offer health educations in the local language to the needs of the community and emphasize the cultural centred approach when planning and implementing health promotions.

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Appendix 1: Approved 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 2: Thesis project agreement (personal information/signatures removed)

AMMATTIKORKEAKOULU
University of Applied Sciences

THESIS PROJECT AGREEMENT FOR OPEN RDI

1. **CONTRACTING PARTIES**

Medhanit Chernet, Milka Pietilä, Gabriel Riako

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

Contact persons:
Director
Diana Karanja PhD

Project Manager
Bernard Abudho PhD

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 TB for TB 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 Haverinen-Mottaghi — Title: MHSc., MHC. RN, Senior lecturer

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

Thesis agreement TEMPLATE

AMMATTIKORKEAKOULU
University of Applied Sciences
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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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University of Applied Sciences
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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

[X] 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

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University of Applied Sciences
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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.

Students:

Nairobi, Kenya 15.2.2023

Milka Pietilä

Nairobi, Kenya 15.2.2023

Medhanit Chernet

Kisumu, Kenya 15.2.2023

Gabriel Riako

Partner

KISUMU, KENYA
Date 27/02/2023

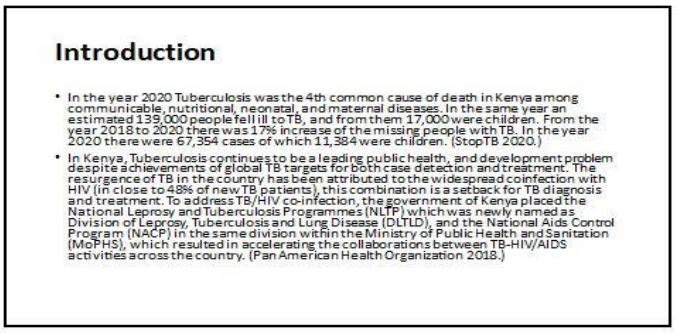
Project Director
Diana Karanja, PhD

27/02/2023

Project Manager
Bernard Abudho, PhD

Appendix 3: Workshop PowerPoint

1



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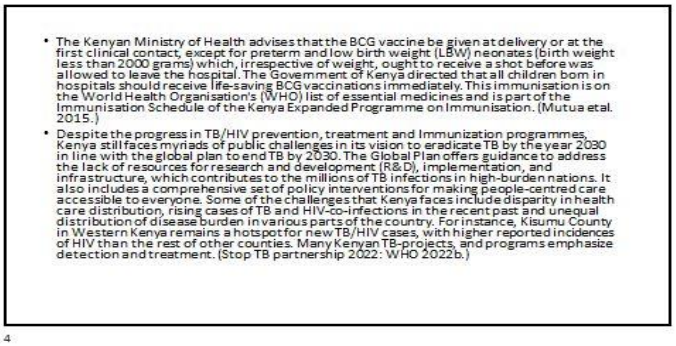


4

Tuberculosis: TB

- Caused by bacteria Mycobacterium tuberculosis.
- Spreads through air when infected person coughs and other persons inhale these germs.
- Normally affect the lungs but can affect other organs as well. (kidneys, spine, brains)

- (WHO 2020; CDC 2016a; CDC 2016c.)

5

Symptoms to active TB: (may include)

- Cough which has been lasting longer than 3 weeks
- Pain in the chest
- Coughing blood/sputum
- Fatigue
- Night sweats, fever and chills
- Loss of appetite and overall weakness.
- (WHO 2020; CDC 2016a; CDC 2016c.)

TB Diagnosis

- Sputum sample
- Chest Xray
- Diagnostics blood test
- Skin-test

- **KISUMU: Where this is offered?**

7

Latent TB

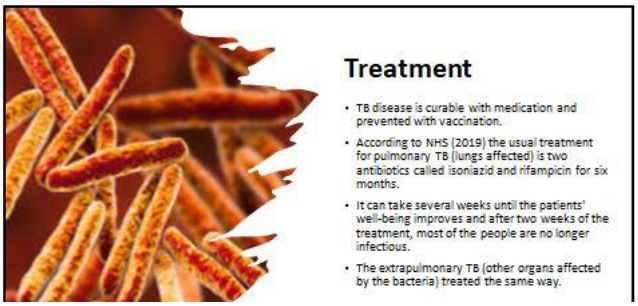
- Most people who get infected with Mycobacterium tuberculosis does not fall ill; Latent TB infection.
- In the Latent TB person does not feel sick or show any symptoms and cannot spread the tuberculosis bacteria.
- People with latent TB infection may develop active TB infection if they do not receive 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.

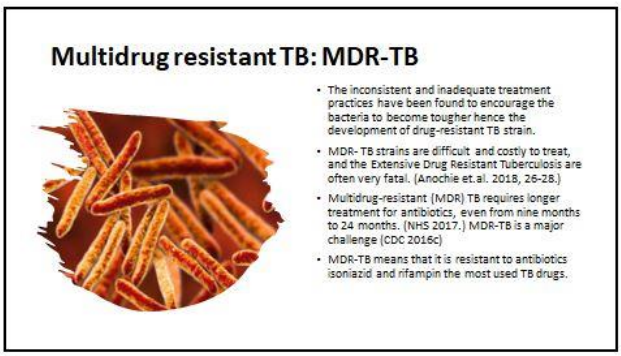
(CDC2016d)

8


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.)

9


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.


Multidrug resistant TB: MDR-TB
• The inconsistent and inadequate treatment practices have been found to encourage the bacteria to become tougher hence the development of drug-resistant TB strain.
• MDR- TB strains are difficult and costly to treat, and the Extensive Drug Resistant Tuberculosis are often very fatal. (Anochie et.al. 2018, 26-28.)
• Multidrug-resistant (MDR) TB requires longer treatment for antibiotics, even from nine months to 24 months. (NHS 2017.) MDR-TB is a major challenge (CDC 2016c)
• MDR-TB means that it is resistant to antibiotics isoniazid and rifampin the most used TB drugs.

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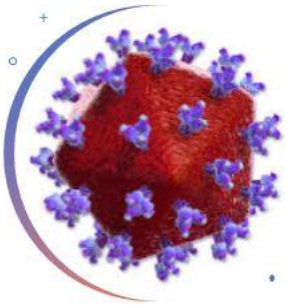
Extensive Drug Resistant TB (XDR-TB)
• Rare type MDR-TB called extensively drug-resistant TB (XDR-TB)
• Is resistant also to fluoroquinolone and one or more of the three injectable second-line drugs. Injectable second-line drugs called capreomycin, kanamycin and amikacin. (CDC 2016e.)
• XDR-TB is often very fatal. (Anochie et.al. 2018, 26-28.)
• Risks to get MDR or XDR-TB increases if all the prescribed medicines are not taken or the medicine is not taken regularly. If patient have taken TB medicine in the past and develop TB disease again increases the risk. Also, the risk is higher if is coming from the area where drug-resistant tuberculosis is common and if individual have spent time with people who have drug-resistant TB. (CDC 2016e.)

12



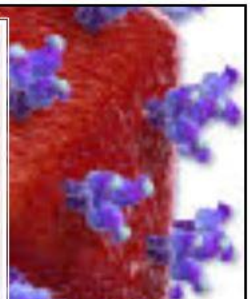
HIV - virus

- 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)

13

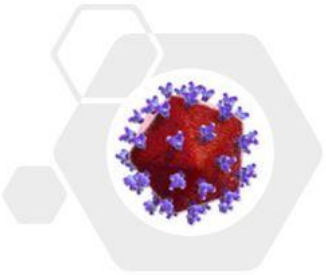
Transmission

- 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 bodyfluids by a person already infected by HIV.
- Unprotected sex
- Sharing of injection drug equipment. (Reinoehl 2013, chap 1.)



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.)



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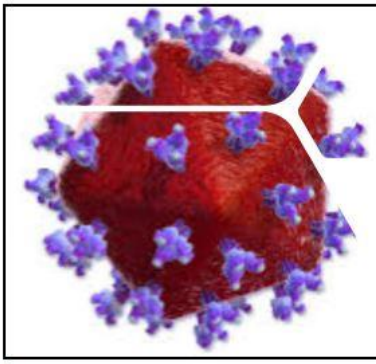

Diagnosis

- 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.

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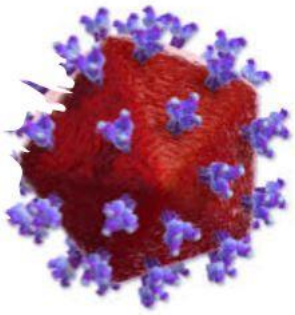
Treatment

- 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.)



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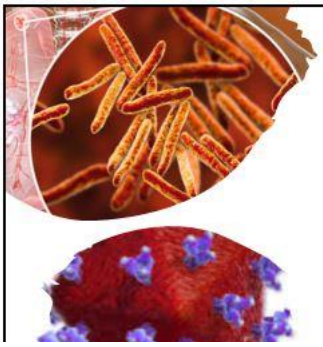
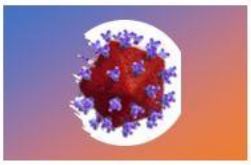


TB and HIV co-infection

- 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)

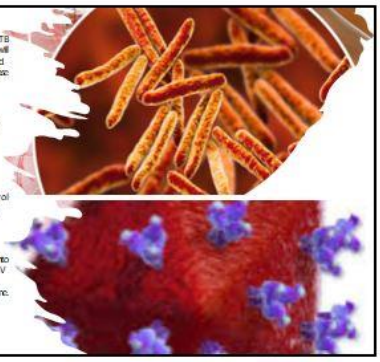


TB and HIV co-infection

- 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.)

19

- TB and HIV forms a lethal combination because each speed others progress. If the current rate of TB infection is left unchecked, then the next 20 years will see an upsurge of almost one billion newly infected people and up to 200 million will develop the disease and another 35 million will die of it.
- TB is an opportunistic disease that prey on weakened immune system and in most African countries where combined TB and HIV prevalence rates are highest in the world, only a third of all infected people receive a full course of TB drugs. (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).
- HIV infection is the most potent risk factor for converting latent TB into active TB, on the other hand, TB infection accelerate the progress of HIV into AIDS infection in the patient. As a result, TB and HIV represent a deadly alliance since they are more destructive together than either of the disease alone. (Anochie et.al. 2018, 26 28.)



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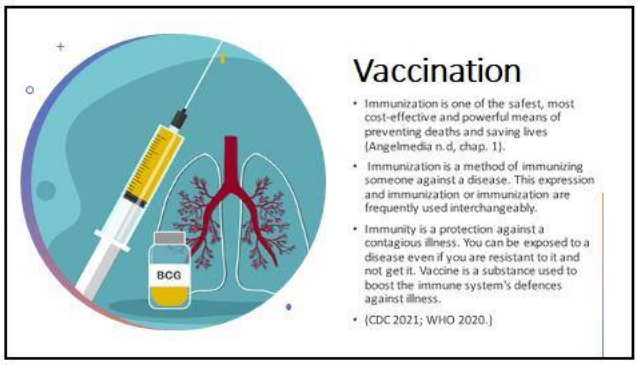

Vaccination

- 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.)

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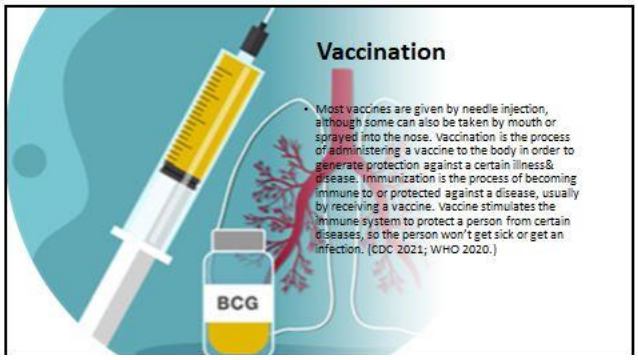

Vaccination

- Most vaccines are given by needle injection, although some can also be taken by mouth or sprayed into the nose. Vaccination is the process of administering a vaccine to the body in order to generate protection against a certain illness& disease. Immunization is the process of becoming immune to or protected against a disease, usually by receiving a vaccine. Vaccine stimulates the immune system to protect a person from certain diseases, so the person won't get sick or get an infection. (CDC 2021; WHO 2020.)

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).

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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.

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FACTS ABOUT TB and HIV/AIDS

- People living with HIV are 30 times more likely to develope TB than HIV negative people
- Active TB can accellerate the the progress of HIV, likewise TB can also speed the progress of HIV.
- HIV makes TB more difficult to diagnose and treat.
- TB and HIV co-infection can be managed.
- HIV is sexually transmitted.

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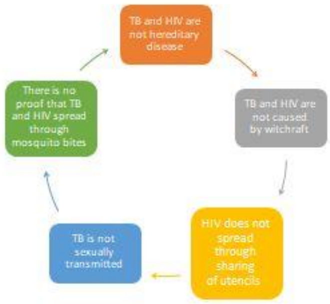
MYTHS ABOUT TB, HIV/AIDS



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Appendix 4: Intervention Questionnaire for service deliverers

Interview Questionnaire
1. What are the cultural practices for awareness creation/improving for TB and HIV-co-infections?
2. Could you explain about the local drugs and herbs for treatment of HIV and TB?
3. Could you explain about the perceived barrier to TB and HIV co infection prevention and treatment locally?
4. Could you define how to reduce the perceived barriers of TB and HIV co-infection in your community and locally?
5. Feedback from the workshop. Pros and cons. What did you like and how would you improve the workshop? Would you recommend workshop for a friend? If yes explain why, if no explain why?

Appendix 5: Participant information sheet (contact details removed)

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 February- 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
Tel. number:
Email:

Student
Name: Pietilä Milka
Tel. number:
Email:

Student
Name: Riako Gabriel
Tel. number:
Email:
Supervisors
Name: Aholaakko Teija-Kaisa
Tel. Number :
Email:

Name: Haverinen-Mottaghi Elsi
Tel.number:
Email:

Appendix 6: Participant consent form (contact details removed)

Participant consent form

Title of the study: Health promotion project Maliza TB for TB and HIV co-infections in Kenya
Location of the study:

Name: Chernet Medhanit
Tel. number:
Email:

Student
Name: Pietilä Milka
Tel. number:
Email:

Student
Name: Riako Gabriel
Tel. number:
Email:

Supervisors
Name: Aholaakko Teija-Kaisa
Tel. Number:
Email

Name: Haverinen-Mottaghi Elsi
Tel.number:
Email:

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.

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.