

CHALLENGES IN MANAGING TUBERCULOSIS TO ATTAIN YOUTH PRODUCTIVITY IN PROMOTING NATIONAL DEVELOPMENT IN KENYA

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Abstract: Tuberculosis (TB) disease is highly infectious and a big threat to humankind. The pathogen that causes TB has diverse ways of surviving and evading the immune system making it very difficult to treat TB. The youth (18-35 years) who are actively engaged in national development are threatened by Tuberculosis, which may render them unproductive. The findings of this research paper were attained through cross-sectional study design. In this design, the challenges in the management of Tuberculosis amongst the youth and young adults in Kenya were investigated. The sample size was identified through the Krejcie and Morgan (1970) table which shows that when the population is over 1 million, then the sample size is 384. Further, Mugenda and Mugenda (2003) argue that sample sizes of 10 to 30 per cent are sufficient for data analysis. Therefore, this study used 15% of the sample size, which was 59 respondents. The rest, 10 respondents were caregivers, nurses and doctors from whom data was collected by used of a key informant guide. The collected data was uploaded in Kobocollect server and later exported to excel CSV file for cleaning. It was later exported to SPSS for analysis. Descriptive statistics were generated by SPSS. The narratives were analyzed according to topics and themes. The data was presented in percentages, tables and narratives. The study found out that amongst the challenges faced in the management of TB in the youth in Kenya are poor access to health facilities, lack of income, HIV infections, substance abuse, poor housing, poverty and poor implementation of policies by the government. The study recommends awareness creation amongst the youth on the importance of adhering to TB medication and establishing sustainable partnerships with the government for implementation of Policies on TB prevention and management.

Keywords: Tuberculosis management, Tuberculosis management Challenges, Youth Productivity challenges, National Development challenges, Tuberculosis prevention, Tuberculosis management.

INTRODUCTION

Tuberculosis is among the top global health challenges whose transmission rate is high when cohabiting with an infected person. Globally, about 10 million people were infected with TB in 2019, where over one million succumbed to the disease. In 2020, India, Pakistan, Philippines, some parts of West Pacific, Nigeria and South Africa recorded the biggest numbers of TB infections globally (Chakaya et al., 2021). Tuberculosis is ranked 9th among killer diseases and the second leading infectious killer after COVID-19 globally (Floyd et al., 2018).

The youth (18-35 years) are a set of age group that is understudied even as the world works to end Tuberculosis. They are a unique population which the globe is trying to understand to end Tuberculosis, which has caused more deaths than COVID 19. Youth have been overlooked, yet they are a unique group of people with physiologic, social and developmental features that need to be studied and understood.

The youth have extensive social contacts outside the household hence at a high risk of TB infections. Adolescents are also at risk of Tuberculosis due to household exposures as a study conducted in India revealed (Dolla et al., 2019). Historical Data has shown that TB is high amongst the youth where the infections can progress. However, it is not clear whether the youth are more vulnerable to the infection than young ones because it depends on the strength of transmission. Globally, there are over 2 million young adults (15-24 years) who contracted TB in 2012, contributing to 17% of new infections (Snow et al., 2018).

In Kenya, TB ranks 9th among the killer and highly infectious diseases. In 2019, over 86,000 Kenyans were reportedly treated from TB with 10% of them being children. TB management in Kenya is taken care of at the governments expense, in the government health facilities. However, not all TB cases are reached out to and treated. According to a study conducted in 2020 overcrowded universities in Kenya, 8.3% of 200 students tested positive for TB. This was as a result of sharing rooms/beds with index cases (MoH, 2020). TB is preventable and curable but the disease continues to ravage vulnerable populations in Kenya and across Africa.

The importance of the youth in making peace, national security and challenging terrorism is gaining momentum in the international community. As such, the youth need to be empowered to shift from victims of violence to agents of positive change and peace (Shepherd, 2018). One of the greatest challenges in the implementation of this framework in Africa continent is lack of opportunities for the youth. In a country where there are limited job opportunities for the youth, disease burden can worsen the situation and render the youths unproductive towards national development opportunities. Kenyan youth are recruited in the national Youth Service, police, military and technical schools, where they get opportunities to engage in nation building activities.

Diseases like Tuberculosis, HIV/AIDS among others can affect the youth and therefore national development. According to Unicef, there were about 1.71 million on average, adolescents living with HIV/AIDS globally in 2021. Adolescents account for 5% out of the 11% of adults living with the diseases globally (Hosek & Pettifor, 2019). According to CDC, the youth account for over 20% of the new HIV diagnosis. African youths accounts for 82% of the newfangled infections. There is a growing and worrying trend of infections amongst the youth as the advocacy for Social Change revealed. The youth normally tend to experiment with drugs, alcohol, substance abuse and indulge in unsafe sexual practices. According to the National AIDS Control Council, males aged 15-35 years are more affected by the HIV disease because of their “don’t care attitude” (MoH, 2019a). These men suffer silently due to the fear of stigmatization.

Research has shown that HIV/AIDS patients are at a higher risk of Tuberculosis. According to CDC, Tuberculosis is the major cause of death for HIV patients. The problem of HIV and Tuberculosis infections amongst the youth has been compounded by poverty, unemployment and

cultural practices that encourage girls to be submissive. The population of the youth is burgeoning and there are no job opportunities to absorb them. Some of those that are lucky to secure jobs cannot sustain their basic needs because they live from hand to mouth; the vicious cycle of poverty. Consequently, majority of the youth lack adequate food and income to replenish their lives. This makes them vulnerable to immoralities through which they contract the disease.

Additionally, the rising infections of Tuberculosis have been driven by COVID19, which has caused the youth to lose their sources of income which has therefore resulted to their indulgence in drugs, alcohol and substance abuse. This has equally led to the new infections. The six months lock down in Kenya that happened when COVID 19 struck the country contributed greatly to rising cases of HIV amongst young people in Kenya as well as gender-based violence. These cases came with Tuberculosis infections.

The youth play a vital role in renewing and refreshing the current status of leadership, skills and innovations in our society. The youthful energy and capabilities are key in peacebuilding work, mediation, humanitarian work, and community mobilization. It becomes challenging to advance in these undertakings when one has health issues. A generation of young people suffering from infectious diseases cannot be fit to participate in nation building activities. The young people may shy away from getting diagnosed from TB or it may be difficult to get diagnosed. Additionally, TB may be may be difficult to get diagnosed. Those joining different sectors to support nation building such as the military, police, National Youth Service, Jua-Kali sector and others may be hindered by the Tuberculosis because they cannot work. Additionally, TB is air borne and spreads very fast. The disease deprives them of their energy, sources of income and self-esteem and therefore cannot participate optimally in nation building and promotion of national security.

In this context, the government's efforts to harness the potential of the youth for Kenya's development face a significant obstacle due to the increasing infections among young individuals, particularly concerning Tuberculosis (TB) and other infectious diseases. The rising infections among the youth negatively impact the government's agenda of empowering them and hinder the recruitment of young individuals for various National Security roles. This research paper specifically investigates the management challenges of Tuberculosis within young adults, considering their unique developmental needs. It explores the vulnerability of certain groups of young adults to TB, emphasizing factors such as increased disease acquisition chances, barriers to accessing TB care, and immunity issues. These vulnerable groups encompass individuals facing challenges like migration, refugee status, homelessness, substance abuse, incarceration, and those living with HIV and AIDS. Consequently, this study aims to shed light on the challenges faced in managing Tuberculosis, ultimately aiming to enhance youth productivity and contribute to national development in Kenya.

METHODOLOGY

Research Design

The study employed cross-sectional research design in investigating the youth in various sectors and how they have been affected by Tuberculosis. This design was appropriate in understanding the prevalence of tuberculosis amongst the youth. The design has been used in epidemiology in assessing prevalence of diseases in a particular population. The study focused on the youths in Kenya, those that have been affected or infected with TB and how this has affected them socially as well as the challenges they may have encountered as a result of the disease burden. Cross-sectional design was employed because the study was looking at the youth 14-29 years in relation to Tuberculosis and their productivity.

Sample Size and Sampling Techniques

The total population of the youth infected with or affected by TB is not known. Therefore, the sample size was derived from Krejcie and Morgan 1970 which shows that when the population is over 1 million, the sample size is 384 (Krejcie RV and Morgan DW, 1970). However, Mugenda and Mugenda (2003) argue that sample sizes of 10 to 30 per cent are sufficient for data analysis (Mugenda O & Mugenda A, 2003). Therefore, this study used 15% of the sample size, which was 59 respondents.

Table 1

Krejcie and Morgan Table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Data Collection Methods

Primary data was gathered digitally by use of structured questionnaires for the TB patients and Key informant guide for the key informants. The structured questionnaire and the key informant guide were uploaded in Kobocollect, an open source android application, making it easy to use android devices in collecting the data. A total of 59 respondents were interviewed. This composed of 49 TB patients and 10 key informants which were clinical officers, and patient care givers.

Data Analysis

The collected data was uploaded in Kobocollect server and later exported to excel CSV file for cleaning. It was later exported to SPSS version 25 for analysis. Descriptive statistics were generated by SPSS. The narratives were analyzed according to topics and themes. The data was presented in percentages, tables and narratives.

RESULTS

In the study, 49 (83%) patients and 10 (17%) key informants were interviewed. The study purposed to know the number of patients interviewed by gender; Females comprised of 49% of the participants while men were 51%.

From The selected sample, 47% had attained primary academic qualifications while 20.4 % had secondary education. 6.1% had no education, but were literate based on the fact that they could communicate. A few, 10.2% had attained a university degree while 16.3% had attended college level.

The age of the patients (respondents) was classified in to three; below 18 years, 18- 35 years and over 35 years. There was none below 18 years while those at the age of 18 -35 years were 63.3%. The study purposively targeted on the youth. Those over 35 years were 36.7%.

The study revealed that the source of income for the interviewed TB patients was varied. Some, 33% did not have a source of income, while 47% are either in business or employed. A good number, 33% did not have a source of income.

67.3% of the respondents believed that the government of Kenya has not engaged the youth fully in development and creation of opportunities. Likewise, 73.5% reported that the youth were not involved in decision-making and the development of services and programs for the youth.

Challenges in Managing Tuberculosis to Attain Youth Productivity in Promoting National Development

The study sought to examine challenges in managing tuberculosis to attain youth productivity in promoting national development in Kenya. The respondents were asked to give their views on the challenges. Table 2 summarises the distribution of the respondents by challenges in managing tuberculosis

Table 5

Challenges in managing tuberculosis

	Frequency	Percentage
Poor access to TB health centers	9	18.4
Poverty	29	59.2
Delayed Diagnosis	32	65.3
No income	36	73.5
Poor Housing	24	49
HIV / AIDs preference	14	28.6
Substance abuse	28	57.1
Non-adherence to TB medication	26	53.1

The study identified various challenges that TB patients were experiencing. Those with poor access to TB centers or health facilities were 18.4%, poverty was represented by more than a half (59.2%) of the respondents, delayed diagnosis 65.3%, lack of income 73.5%. Those with poor housing were represented by 49%, HIV/AIDs preference was 28.6%, substance abuse 57.1% and the ones experiencing challenge with adherence to TB medication were 53.1%.

Of importance to be noted from the table displaying the challenges is that some patients were experiencing more than one challenge. Therefore, every challenge was rated as a percentage of the total respondents.

The question on how the government of Kenya is committed to treatment and prevention of Tuberculosis was thrown to the respondents. Those of the opinion that the government is very highly committed were 83.7% while those of the opinion that the commitment was low were 9 17.3%. A total of 89.8% believed that the government of Kenya had adopted innovative technologies in TB testing and screening.

All the key informants (10) that comprised of Doctors, care givers, nurses and Medical officers reported that the youths in Kenya were highly vulnerable to Tuberculosis. the reasons given for the vulnerability were sharing of cigarettes and alcohol; low immunity; large crowds and ignorance. Five of the key informants expressed their opinion that the government of Kenya had involved the youth in the development and creation of job opportunities for them. Those of the opinion that the government had involved the youth gave reasons such as Kazi mtaani program by the government, Higher Education loans, and promotion of health education, all of which target and benefit the youth. All of the key informants were of the opinion that the government of Kenya did not involve the youth in decision making, designing policies, programs and services for the youth. Additionally, all of the Key informants agreed that the government of Kenya was committed to the treatment of TB as evidenced with adoption of innovative technologies in diagnosis and treatment of TB and equipping of TB medical facilities across the country.

The Key informants who were doctors, medical officers, and caregivers recommended that for the government to score more in the management of TB amongst the youth, they need to Carry out capacity buildings through intensive sensitization campaigns; train the youth on TB, include

TB in the curriculum, strengthening of community health groups; creating opportunities for the youth to be engaged in and express their opinions, a paradigm shift from using media to using community health groups to reach out more youth through sensitization and capacity building, providing nutritional support; reducing pill burden, avail tools and instruments for investigation, Equip laboratories for effective testing, proper affordable housing for the youth, involving the youth in policy making and; more adherence treatment platforms for patients.

DISCUSSION

Gender disparity has been noted with HIV and TB cases where women tend to seek for medical attention as opposed to men (Enos et al., 2018a). The findings in this study show that 49% of those interviewed were females while men were 51%. The chosen sample size cannot be used to conclude that more men with TB infection seek medical care than women. The Kenya Tuberculosis prevalence survey that was conducted in 2016 suggested that more women with TB infection seek medical care, as compared to their male counterparts (Enos et al., 2018b).

Studies have shown that children at the age below two years are more vulnerable to Tuberculosis. This risk declines at the age of 1-4 years but rises again at the age of 15-25 years, which are the youth (Narasimhan et al., 2013). This study showed that those TB patients at the age of 18 -35 years were 63.3% as compared to 36.7% that were over 35 years of age. The youth and adolescents are very highly vulnerable to Tuberculosis.

Tuberculosis vulnerability is influenced by various factors such as age, social behaviors, living conditions, health of an individual, occupation and source of income. The study revealed that 49% did not have a source of income, while 51% were either in casual jobs or small-scale businesses that were not performing well. Those challenged with poverty were 59.2%. People with low and unstable incomes and living in poverty were at a higher risk of Tuberculosis. A study conducted in Malawi, Rwanda, Tanzania, the Philippines and Myanmar revealed that household socioeconomic levels such as poverty and lack of income contributed to severity of Tuberculosis. lack or inadequate income means that a Tuberculosis patient may not afford the recommended nutrition and may have limited access to healthcare and proper housing, which in turn may increase the risk of transmitting the disease (Siroka et al., 2016).

The government of Kenya recognizes the significance of youth involvement in decision making processes on all sectors, including health. Youths have been involved in developing effective policies in TB management and designing initiatives for the youth to engage in TB-related activities such as policy formulation, planning and implementation of TB programs. The youth are also encouraged to come up with innovative approaches in raising awareness. From the study, 83.7% of the interviewed TB patients acknowledge that the government of Kenya is very highly committed to TB diagnosis and treatment. Additionally, the study revealed that 67.3% of the respondents believed that the government of Kenya has not engaged the youth fully in development and creation of opportunities. However, the youth that are already infected with TB have not had the opportunity to be involved in these opportunities. There is lack of inclusivity amongst the youth on how they are involved. Secondly, there education and awareness creation campaigns are not as vigorous as they used to be. This is inline with the response of the Key Informants that were mainly doctors, care givers and nurses, who reported that the government

of Kenya does not involve the youth in decision making, designing policies, programs and services for the youth that are already infected with TB, since they better understand the challenges they face.

According to the study, only 18.4% of the interviewed patients had challenges with accessing healthcare facilities. Access to healthcare facilities can be influenced by factors such as geographical location of the facility, transport and infrastructure, finances, stigmatization and the quality of the healthcare services provided. The youth may shy away from seeking medical care, while others fall victim of stigmatization. The health care services in TB centres in Kenya are deliberately sensitive to the needs of the youth. Firstly, the healthcare facilities are many, they operate in convenient hours for the youth, the patient's information is treated with confidentiality and the youth are empowered and taken through education and training session. Additionally, like other TB patients, the youth are assigned a healthcare worker who are friendly, to follow whether the youths are adhering to the TB medication and general care of the patients as provided in the National Tuberculosis, Leprosy and Lung Disease strategy (MoH, 2019b). This was also reported by the interviewed respondents who were TB patients visiting various TB centers for their clinics. The TB medicines and related services were freely provided to the patients.

While improved access to primary healthcare contributes significantly to reducing disease burden and mortality, the low- and middle-income countries are yet to fulfil the Alma Ata Declaration (Jamison et al., 2018). In the context of Kenya, which is a middle-income country, access to healthcare is not as difficult in the urban areas. However, it is challenging in the rural areas with poor road infrastructure. Accessing healthcare facilities for TB treatment can be constrained by lack of money for transport, even when the medical care is free at the health facility. A study conducted in the rural parts of Makeni county found out that access to healthcare was limited due to lack of infrastructural prerequisites such as poor roads, and neglected health facilities (Essendi et al., 2015). This applies to North Eastern Parts of Kenya and other areas away from major towns and urban centers.

While all the ten key informants reported that Kenya had adopted the state-of-the-Art technology in TB diagnosis and treatment, a good number of the patients interviewed (65.3%) reported that they had suffered delayed diagnosis due to misdiagnosis. The big number of the respondents that suffered misdiagnosis can be explained by the fact that patients adopt different treatment pathways, e.g. herbalist, private clinics, on counter drugs, public hospitals and traditional healers (Mbutia et al., 2018). Additionally, there are many reasons that can lead to misdiagnosis of Tuberculosis. TB can present with atypical symptoms, it can come along with infection of other diseases such as HIV, similar symptoms to other diseases, limited access to diagnosis tools, poor medical history and drug resistance (Kunjok, et al. 2021).

The patients (respondents) that suffered poor housing were 49%. Tuberculosis, like many SARs is a social disease that is affected by poor housing, poor quality of life, overcrowding, burgeoning population, large families, lack of education, alcoholism amongst other social factors (Khan et al., 2019). Poor housing comes with poorly ventilated houses, or small houses without adequate space for the household members. In such cases, saliva or body fluid droplets from the infected person can easily get in contact with the rest of the members sharing the household and get

infected (Mathema et al., 2017). TB is mainly concentrated on vulnerable members of the community such as homeless people, prisoners, persons living with HIV and the poor. Ancient methods of TB control in Kenya have led to humiliation and discernment for the infected, fear and mistrust for health institutions. These challenges have led to delayed TB diagnosis, continuous transmission, poor treatment outcomes and low treatment completion rates (Jetty, 2021).

HIV and AIDs burden was reported by the interviewed TB patients (28.6%) as one of the challenges they face. Tuberculosis and HIV is a duet noted as a public health challenge in the world. People with HIV develop low immunity and therefore become highly susceptible to TB infection (Tiberi et al., 2017). Improved diagnostics and accessibility of medical care can improve this challenge.

The study revealed that 57.1% of the respondents suffered substance abuse. Misuse of drugs and alcohol as well as cigarettes increase the risk TB infection and complicates management of the condition. Substance abuse leads to weakened immune system, damage of the lungs, reduced drug adherence and chronic health conditions (Nordholm et al., 2023). Patients with challenges of substance abuse should get integrated care to address both the TB and substance abuse challenges. This can be difficult to the youth that do not have a source of income, are in poverty and rely on casual jobs or their relatives for upkeep and care.

The study reported that 53.1% of the respondents had challenges with adhering to TB treatment. There are various reasons as to why the youth may fail to adhere to TB treatment. Firstly, TB treatment takes a long duration of time, such as six months and over, while taking the prescribed antibiotics. The patients under treatment may develop side effects such as lack of appetite, gastrointestinal discomforts, nausea, skin rash and fatigue, which may compromise medical prescriptions routine. Additionally, the youth may face stigmatization from the community, making it difficult to seek support or TB treatment. Some patients may also lack TB knowledge, in terms of its cause and duration of treatment, as reported in Asmara, Ethiopia (Gebreweld et al., 2018).

CONCLUSION

The study has established several challenges faced in the management of Tuberculosis in Kenya and globally. These challenges can be categorized as household challenges and government challenges. Household challenges emanate from the socioeconomic levels of households that dictate management of TB patients in terms of financing the medication, nutrition for the patients, patient's capability of taking care of their families and source of livelihoods for the patients among others. Space in the household is a challenge because TB patients need unshared and open space since the disease is highly infectious. This gets more challenging to the youth who are more vulnerable and may not have a source of income. The government is challenged with implementation of policies and financing for treating TB patients and welfare programs for TB patients. Patients that go for diagnosis late when the TB infection has progressed and those that do not adhere to the prescribed medication develop the multi-drug resistant TB.

This study recommends the Kenya health professionals should be keen to use and follow the 2013 revised guidelines for dealing with TB and Leprosy to save lives. This also includes implementation of the WHO consolidated guideline on TB 2020. The government of Kenya should seek funds to implement the Kenya Latent TB infection policy 2020 document by providing preventive therapy to those considered at the risk of developing TB. there should be accountability in the management of the money and resources meant for TB programs to attain maximum output. Additionally, Kenya should adhere to these guidelines to get better TB infection outcomes amongst the adolescents and children. Rapid implementation of these guidelines will save young lives and avert suffering. Civil Society Organizations should be on the lookout for the government to implement their commitment and ensure that TB patients do not suffer in silence because TB can be treated, and government have the mandate to support the treatment process.

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