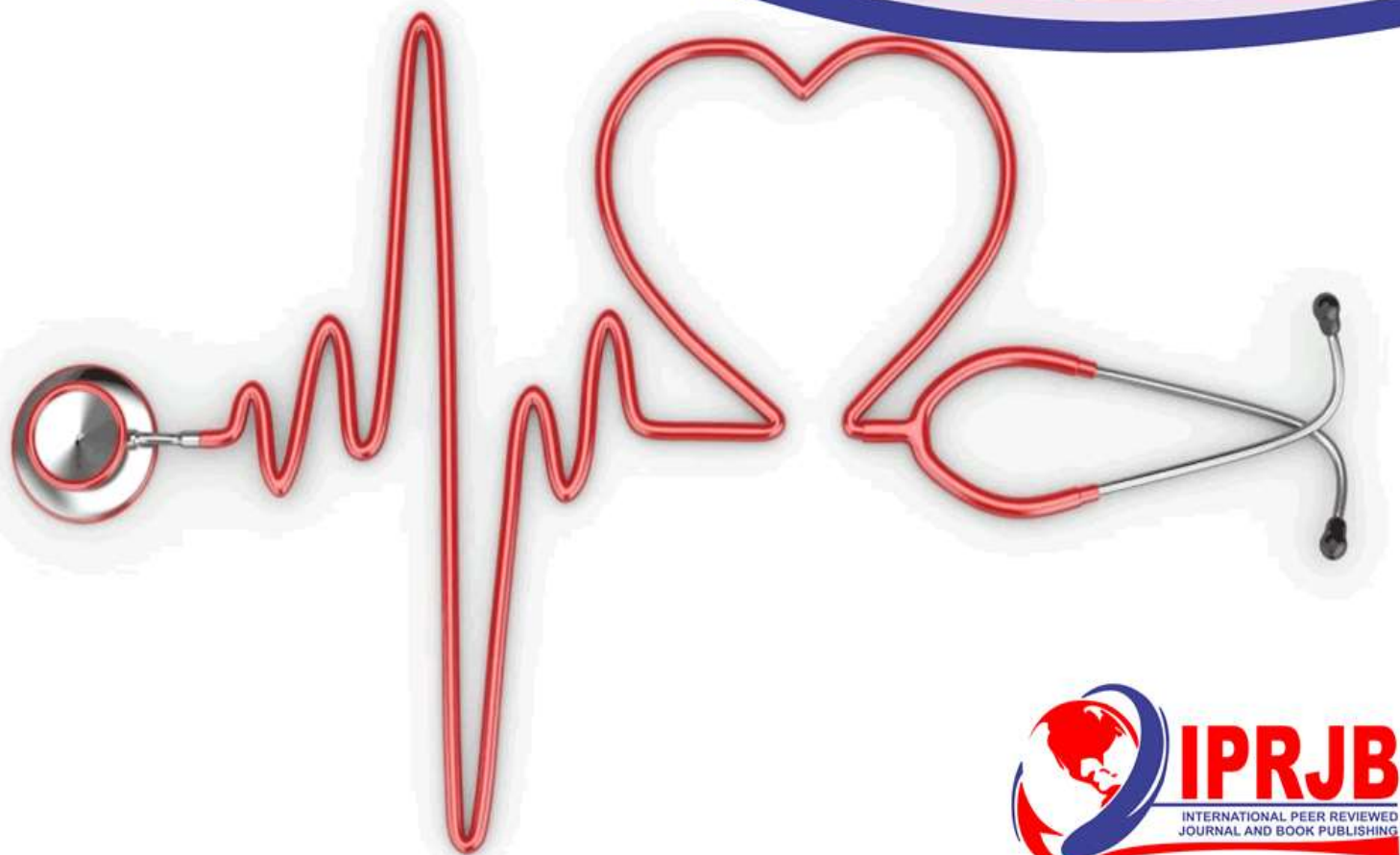


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**Doctor Patient Type of Language Used and Tuberculosis Treatment Adherence in  
Kibera Informal Settlement in Nairobi County, Kenya**

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**Doctor Patient Type of Language Used and Tuberculosis Treatment Adherence in Kibera Informal Settlement in Nairobi County, Kenya**



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**Abstract**

**Purpose:** To explore the type of language used on tuberculosis treatment adherence in an informal settlement in Nairobi County, Kenya.

**Methodology:** This was by a descriptive qualitative research design. The sample size was 67 and comprised 10 healthcare workers and 57 TB patients. Purposive sampling technique was used to sample the participants. The study conducted 37 unstructured in-depth interviews and 3 focus group discussions. Data analysis was conducted by first translating the data, then transcribing the verbatim of the in-depth unstructured interviews and focus group discussions. The transcribed data was later analyzed using thematic analysis. Data was presented using tables, bar charts and pie charts.

**Findings:** The findings of the study indicated that majority of the tuberculosis patients found that the type of language used by the healthcare workers when communicating with them determined whether they would adhere to treatment or not. If the language used was not well understood by the patient or if the healthcare worker used complex language, then the patient was not likely to adhere to treatment. The findings further indicated that more than half of the patients were fluent in Swahili language while the remaining patients only had basic knowledge of the language. Sixty percent that is 34 of the participants were fluent in Swahili language whereas thirty- eight percent that is 22 patients had basic knowledge of the language, and one did not understand the language and opted to communicate with the help of an interpreter. Seventy percent that is 40 of the patients indicated that when the healthcare workers communicated with them in simple language they were more likely to adhere to TB treatment. Findings from the healthcare workers indicated that Swahili was the preferred language used by both the healthcare workers and the tuberculosis patients. If a patient did not understand Swahili language, the healthcare workers would look for an interpreter who would then translate to the patient the required information. The use of complex medical language was only used when the healthcare workers were communicating amongst themselves.

**Unique Contribution to Theory and Practice and Policy:** The constructs of the theories informed the study in terms of treatment adherence by emphasizing the benefits of seeking healthcare early. On practice, healthcare workers needed to be aware of type of language used when interacting with their patients as they are likely to affect their patients' adherence to treatment. Based on these findings, policymakers should ensure that all healthcare workers should use simple language that is, the use of plain common words to make it easier for the patients to understand. In addition, any health messages, appointment cards or any other TB information whether spoken or written meant for the patients, should be designed in a language that is simple for the patient to comprehend.

**Keywords:** *Treatment Adherence, Doctor-patient Communication, Type of Language, Patients, Tuberculosis, Healthcare Workers.*

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## INTRODUCTION

Communication between a doctor and a patient has a very important impact on health outcomes. Good and effective communication can improve compliance, adherence to drugs and ultimately improve outcome of care. Poor language has been cited as one of the barriers to effective communication (Jahan and Siddiqui (2019). Proper disease management should include the doctor providing information in a language understandable by the patient, and with just the right amount of details. The doctors were expected to use a language that their patients can understand in the doctor patient interaction. The doctors were also expected to have awareness of the patient's condition in order to increase the patient's level of comfort and thus decrease anxiety associated with a patient's hospitalization. Effective doctor patient communication can be achieved if doctors can be able to communicate with patients in a language that they are able to understand (Krulak, Mogilnicka, Symonides, Kacperczyk, Dobrowolska, and Romejiko-

Wolniewichz, 2016).

Globally, approximately 10 million persons are diagnosed with tuberculosis (TB) yearly. Even with the availability of treatment, 1.5 million deaths are recorded annually thus being ranked as one of the world's top infectious diseases. TB claims a majority of the lives of persons living with HIV and majorly contributes to antimicrobial resistance. The majority of persons infected with TB reside in low middle-income countries despite its worldwide presence. Estimates show that a quarter of the world's population is infected by TB bacteria of which 5-15 % will experience active TB. However, those with latent TB cannot transmit the disease. Both the active and latent TB are curable using antibiotics (WHO, 2020).

Regionally, in 2016, 2.5 million people were infected with TB disease in Africa, resulting in about a quarter of the new TB cases in the whole world. In 2016, approximately 417,000 persons died from TB in Africa. TB deaths in this region amount to over 25%. Apart from TB being a leading killer of HIV positive people, still in 2016, 40% of HIV deaths were due to TB. About 82% of TB deaths among HIV negative people occurred in Africa, (Tuberculosis Fact Sheet, 2020).

Locally, Tuberculosis (TB) remains a major public health problem in Kenya as the number one cause of death from a single infectious agent, placing it just above HIV/AIDs. This is despite the fact that if TB is diagnosed early and proper treatment administered, the majority of the TB patients can be cured. The National TB Prevalence Survey (2016) established that Kenya's TB prevalence was much higher than anticipated standing at 558/100,000 meaning that 40% of the country's TB cases can remain undiagnosed and untreated. The Sustainable Development Goals (SDGs) as well as the End TB Strategy hopes to put to an end the TB epidemic. This will mean working towards the elimination of disease here in the country and also improving early detection leading to accurate treatment. Annually, approximately 169,000 people get infected with TB. Nairobi alone, contributed to about 15% of the country's TB cases in 2017. Nairobi has a high population especially in the Kibera informal settlement which is one of the largest in Africa, where TB prevalence is high (TB Vipasho Newsletter, 2018).

According to the United Nations General Assembly report (2018), nearly one quarter of the world's urban population that is, 883 million people live in informal settlements, 520 million of these people are in Asia. In sub-Saharan Africa, half of city dwellers live in informal

settlements. Many residents live in overcrowded, insecure dwellings, without clean water and sanitation, fearful of eviction and subject to preventable life-threatening illnesses. Goal eleven of the 2030 Agenda for Sustainable Development entrusts states to enhance slums by 2030. This is attached to the wider responsibility to ensure access for all to adequate, safe and low-cost housing by 2030. Better living conditions in most parts of the world including Europe in the 19<sup>th</sup> century led to the low prevalence of TB. Kenya could adopt the same improved living conditions which are bound to bring the TB cases to a minimal level. Intensified universal health will likely lead to better health outcomes for TB patients (TB Vipasho Newsletter, 2018).

### **Statement of the Problem**

Tuberculosis (TB) is a serious health issue in Kenya. About 120,000 people a year develop TB (48,000 of them being HIV- positive) and 18,600 people die from it. It is the fourth largest cause of death, being responsible for about 6% of all deaths. Nearly two people an hour die from TB, despite effective treatments being available. All this is despite considerable progress having been made. Kenya was the first country to achieve World Health Organization (WHO) targets for detecting and treating cases (Vasall, 2015). TB disease is related to poor living conditions and due to its method of transmission, people with compromised immunity and those living with HIV/AIDs, are at a risk of getting infected. The disease is prevalent amongst communities who live in densely populated areas (Odone, Roberts, Dara, Van den Boom, Kluge and McKee, 2018).

Adherence to TB medication is an intricate and dynamic matter as it is affected by several factors. The influence of these factors individually and in combination might vary from one social or geographical setting to the other. Poor doctor-patient relationship with communication gaps has led to patient non adherence to TB treatment (Nezenega, Perimal-Lewis and Maeder, 2020). Doctor-patient communication, apart from being important for accurate medical diagnosis, also warrants adherence to treatment as well as patient satisfaction (Ranjan, Kumari, and Arora, (2020).

Good and effective communication can improve patient satisfaction, understanding of disease, compliance, adherence to treatment and ultimately improve outcome of care (Jahan and Siddiqui, 2019). According to Oliveira and Lefevre (2017), non-adherence to Tuberculosis treatment has become vital in recent decades and is among the challenges of health professionals. Adherence is a positive option for patients to comply with therapeutic recommendations, through dialogue established between the doctor and patient, in the initial diagnostic interview.

Communication has been established as the most important element in determining patients' adherence to treatment (Swain, Hariharan, Rana, Chivukula, and Thomas, 2015). Medical errors often result from miscommunication between the health care providers and the patients. When health professionals fail to communicate successfully with patients, it results in unnecessary pain, in avoidable deaths, in poor health outcomes, in the prolongation of illnesses, and in many other ways that harm the patient. In addition, extra costs can also be incurred because of the communication breakdowns (Pressman & Dickinson, 2016). Therefore, the purpose of the study was to examine and demonstrate how the nature of communication between the doctor and the patient may affect TB patients' adherence to TB

treatment. The outcome of this study may subsequently bridge any communication gaps inherent and thereby enrich and improve the adherence to tuberculosis treatment.

### **Objective**

To explore the type of language used on tuberculosis treatment adherence in Kibera Informal Settlement Nairobi County, Kenya.

### **Research Question**

What is the effect of type of language used on tuberculosis treatment adherence in Kibera Informal Settlement in Nairobi County, Kenya?

### **LITERATURE REVIEW**

Language is an important tool in professional communication in medicine. The history of medicine clearly points to Latin as a dominant language in the field throughout the middle ages and the early modern era, when it was the main international language not only in medicine, but also in religion and philosophy (Panocova, 2017). Language is not only used to convey information, but also it can be used to undertake multiple social activities like individuation and enabling or testing hierarchy. In a doctor-patient communication, language facilitates the understanding of the illness by the doctor from the narration given by the patient. This type of communication may lead to the appropriate diagnosis and treatment of the disease. During this doctor-patient communication, the understanding of the language used is usually determined by the settings under which it is used and the reasons as to why the person uses it. The language that the health care worker chooses to communicate with fellow medical personnel can be established as a barrier when used for communicating with a patient. Once a health care worker communicates with his/her patient, it becomes the duty of the patient to interpret the meaning of the message from the interaction with the doctor. If the patient interprets the message correctively, then the interaction will result in positive health outcomes (Cleland and Durning, 2015).

A doctor's understanding of a patient's language is of paramount importance in building a healthy doctor patient relationship and overall better patient experience. Both doctors and patients face problems because of language barriers. There are situations where the patients are unable to understand the language of their doctors, and doctors too find it difficult to gauge the extent to which the patients are able to understand what was conveyed to them. It is not just the use of different languages, but partial language barriers such as difficulty in finding words (Ranjan, Kumari and Arora, 2020).

Moyo and Salawu (2017) conducted a study using a qualitative cross-sectional survey on patient's perception of the doctor patient communication in a rural community. The participants in the study were patients from different educational backgrounds. In the study patients were asked the language the doctors used during the doctor patient communication. The participants who were patients in the study indicated that the doctor they consulted did not confirm whether they understood the language that he was using to communicate with them. The participants also indicated that they preferred to use their home language when communicating with doctors, yet it proved difficult because the majority of the doctors in the study did not speak the local language. Language in the study was found to be a barrier which affected the patients. The study established that some patients would end up withholding information because they were not confident to express themselves in a second language. The

majority of the participants in the study proposed for the recruitment of trained interpreters to assist patients to express themselves in situations where the doctor's and patient's language differs. Despite this proposal, the participants noted that it was not the best option because there was a danger of misinterpretation. A further proposal was considered that doctors need to ask patients their language preference.

In yet another study by Ranjan et al., (2020), the importance of communicating with patients in their first language was conducted. The study looked at language and how it has been found to be a challenge for most doctors across the globe when communicating with patients. Both doctors and patients faced problems during their interaction due to certain language barriers. In the study it was observed that if a doctor spoke to his or her patient in a language that they understood, it increased the patients' confidence in the doctor. The use of a common language encouraged better understanding of the medical information and it allowed for improved judgement of patients' needs, perceptions and expectations. Treatment compliance was also likely to take place. The study established that effective doctor patient communication laid the foundation for a successful doctor patient relationship. Effective doctor patient communication apart from being important for correct medical diagnosis, it also ensured adherence to treatment as well as patient satisfaction.

The Centre for Disease Control (2023), highlights the importance of health literacy best practices and the way they can build trust and advance health equity. Trust has been identified as a vital aspect of a person's willingness to engage in care and health behaviours that promote health. The use of plain language and using your audience's preferred language and communication channels has been emphasized. Plain language makes it easier for everyone to comprehend and use any health information that has been provided. The use of everyday words for public health communication has been emphasized to minimize public health jargon. In addition, the use of culturally and linguistically appropriate language has been encouraged. Effective communication recognizes and bridges cultural differences.

Krulak et al., (2016) conducted a study on the importance of communication in the doctor patient relationship. The aim of the study was to identify factors which increased effectiveness of doctor-patient communication. One of the factors was that effective communication should involve availing information using a language which the patient can comprehend.

### **Theoretical Framework**

The study was premised on two theories: The Health Belief Model and The Theory of Planned Behaviour.

#### **The Health Belief Model**

This study used the Health Belief Model as a suitable model for adopting interventions that enhance patient compliance or adherence to Tuberculosis treatment. The construct of perceived benefits was used to determine the influence of type of language during communication on TB patient's treatment adherence. If a patient understands the language that the doctor is using, they will most likely benefit from whatever information that the doctor is communicating to them. They are also likely to adhere to TB treatment.

The Health Belief Model (HBM) was developed by researchers at the United States Public Health Service in the late 1950s. At the time, a great emphasis was placed on screening programs for disease prevention and early detection. Although public health practitioners were in favour of screenings, the public was not very receptive to being tested for diseases of which they did not have symptoms. This was particularly true for Tuberculosis. The Health Belief Model is made up of four perceptions which act as the main constructs of the model. Perceived seriousness, followed by perceived susceptibility, and perceived benefits, finally perceived barriers make up the four constructs. The perceptions can also be used to explain health behaviour. Over the years, other constructs were added to the model, thus, the model has been expanded to include cues to action, motivating factors, and self-efficacy (Hayden, 2019).

### **The Theory of Planned Behaviour**

The construct of attitude towards the behaviour guided this study. The TB patients were likely to adhere to treatment if the healthcare workers expressed a positive attitude by the positive verbal and non-verbal cues that they expressed when interacting with the patients. The theory predicts an individual's intention to engage in a behaviour at a particular moment and place. The main element to this theory is behavioral intent. The behavioral objectives are determined by the attitude about the probability that the behaviour will have the intended result and the subjective assessment of the risks and gains of that end result. The theory has been used effectively to anticipate and describe a vast scope of health behaviours and intentions including drinking alcohol, substance abuse and smoking among others (LaMorte, 2022).

### **METHODOLOGY**

This study used a qualitative descriptive research design. This type of research design was appropriate for this study because the researcher needed a straight forward description of the phenomenon. It acknowledges the subjective nature of the problem especially the different experiences that the participants had endured when adhering to tuberculosis treatment. Qualitative descriptive designs usually occur regularly in healthcare studies because of their natural clarity, suppleness and value in a wide range of healthcare settings (Doyle, McCabe, Keogh, Brady and McCann, 2020). The population in this study comprised of TB patients who had been living in the informal settlements in Nairobi County for more than one year. The study chose the informal settlement of Kibera in Nairobi County because this was where the researcher hoped to get a good sample size. The sample size was 67 and comprised of 10 healthcare workers and 57 tuberculosis patients. Purposive sampling technique was used because the researcher was interested in collecting in-depth data which was specific to only TB patients and healthcare workers who deal with them. Unstructured in-depth interviews and Focus Group Discussions were used to collect data. The researcher sought the necessary clearance from the relevant authorities before commencing with the data collection. For this study, once the data was collected in audio and notes form, the researcher immediately embarked on the processing and analysing of the data, looking out for common themes and patterns once the data had been converted to verbatim and later translated from Swahili to English language. Data analysis in a qualitative study involves the identification, examination and interpretation of patterns and themes in a textual data. It also involves the determining of how these patterns and themes will help answer the research questions at hand (The Pell Institute, 2022).

## **RESULTS AND DISCUSSIONS**

### **Response Rate**

A total of sixty-seven participants participated in the study as opposed to the expected seventy-eight. The response rate for all the participants was eighty-six percent. Purposive sampling was used to identify the participants. The study included fifty-four patient participants who had been diagnosed with ‘drug sensitive’ TB and later after the six-month intensive treatment schedule, they were tested and found to be TB free. The study also included three participants out of the expected four who were described as having ‘drug resistant TB’ meaning that they had initially been diagnosed with ‘drug sensitive TB’ but later developed drug resistant TB after having undergone the treatment for the initial six-month intensive regime. Apart from the fifty-seven recovered patients, the study also included ten healthcare workers from two different facilities.

Out of the fifty-seven patient participants, ten formed the first FDG and included five males and five females. The healthcare workers formed the second FDG which comprised of ten participants. Males were three and females were seven. The third FDG comprised of five males and five females. In total twenty patient participants out of fifty-seven participated in the focus group discussions. All the ten health care workers participated in the second FDG. Further, the study conducted in-depth interviews with the remaining thirty-seven TB patient participants who comprised of twenty males and nine females. It is worth noting that eighty percent of the participants participated though twenty percent opted not to participate during the focus group discussions. The response rate for the health care workers was seventy percent.

### **Socio Demographic Characteristics of the Tuberculosis Patients**

Among the patient participants interviewed, thirty-eight were male and nineteen were female. The mean age of the participants was thirty-six years old with the mean age of male was thirty-six while the female average age was thirty-seven. The former TB patients were from different ages with the youngest being a male of twenty-three years and the eldest a female of fifty-eight years.

### **Marital Status of the Tuberculosis Patients**

Slightly more than half of the participants were married, thirteen were separated, whereas nine were single and five were widowed. None of the participants were staying with their parents and all had children except one lady of thirty-two years said that she was living alone and had no children. The number of children per family ranged from three to five children.

### **Education Level of the Tuberculosis Patients**

A majority of the patient participants comprising of sixty percent (34) had completed primary education, thirty percent (17) had completed secondary education while five percent (3) of the participants had never attended school. The participants with the highest level of education had college and done diploma certifications on various courses were five percent (3).

### **Economic Status of the Tuberculosis Patients**

Out of the thirty, fifty-seven former TB patients interviewed, only nine percent that is five, were employed in Industrial Area of Nairobi. Notably they had to walk to and from work due



to the minimal pay of about Ksh. 300 per day which was paid on weekly a basis. Sixty-eight (39) worked in the Jua kali sector (every single day they went looking for work in different areas including markets, garbage collection, Construction work, and (household work for the female participants). The remaining twenty-three percent that is thirteen, were self-employed engaging in selling groceries at the market and roadsides, selling food at the construction site, sold cooked foodstuff (tea, eggs, cakes, Mandazi, Sausages and Samosa).

### **Religion and Culture of the Tuberculosis Patients**

Out of the fifty-seven patient participants interviewed, seventy-nine percent that is forty-five, were Christians. The Christians attended different denominations including Catholic, Kenya Assemblies of God and Anglican Church of Kenya. The Muslims comprised of thirteen percent that is seven of the participants. They attended the Kibera Jamia Mosque. It worth noting that eight percent (five) of the participants were not affiliated to any religion.

### **Socio Demographic Characteristics of the Healthcare Workers**

The total number of healthcare workers interviewed was ten. The mean age of this category of participants was thirty-six point two years. The male's average age was thirty point three years old whereas the female's average age was thirty-eight point seven years.

### **Level of Education of for the Healthcare Workers**

All the healthcare workers have attained college/ tertiary education and are employed at different health facilities in Kibera Slums.

### **Gender of the Heath Care Workers**

Seven of the health care workers interviewed were female and three were male. This indicates that there were more female health workers dealing with TB patients as compared to the male health workers in Kibera informal settlements.

### **The Effect of Type Language Used on TB treatment Adherence**

#### **Findings from the Tuberculosis Patients**

The first objective of the study was to explore the type of language used on TB treatment adherence. The type of language that the doctors use when communicating with a TB patient determines whether a patient will adhere to treatment or not. If language was not well understood by the patient or if the doctor used complex language, then the patient was not likely to adhere to TB treatment. Sixty percent (34) of the respondents were fluent in Swahili language whereas thirty- eight percent (22) had basic knowledge of the language, and one did not understand the language and opted to communicate with the help of a translator. Seventy percent (40) of the patients indicated that when the healthcare workers communicated with them in simple language they were more likely to adhere to TB treatment.

Participant 3 said:

“Initially I did not understand what the Healthcare worker was telling me because I still could not believe that I had been diagnosed with TB. I did not have any knowledge about the disease and I was very scared, but with time I began to understand what I was being told and the language was simple (Former female TB patient, 36 years old).”

Participant 4 said:

“I did not understand what the healthcare worker was telling me but I choose to keep quiet. I feared to interrupt the doctor when he was communicating to me. I knew once I got home, somebody would just explain to me about TB, which was not the case (Former male TB patient Fours of 30 years)”

The participant indicated that the type of language that the doctors used when communicating to a TB patient could determine whether a patient would adhere to treatment or not. Fifty percent (28) of the respondents reported that repetition of the instructions by the healthcare workers on how to take the medications for TB was important because it determined whether a patient would adhere to treatment. The remaining fifty percent (29) of the respondents were of the opinion that whether the healthcare workers repeated the instructions or not on how to take the medications had nothing to do with adherence.

### **Findings from the Healthcare Workers**

The results showed that Kiswahili was the preferred language used by all healthcare workers when communicating with TB patients. The healthcare workers indicated that in some cases, lack of medication adherence was because the patients did not understand instructions in the initial explanation by a healthcare worker. There are few cases where the patients did not understand Swahili or English language. In such circumstances, the healthcare workers looked for one of their own who could translate for the patient in the language that they understood. The findings of the study also indicated that healthcare workers sometimes use complex medical language amongst themselves to pass specific medical related messages to their colleagues as opposed to the simple language that they use when communicating with patients and their families.

Healthcare worker three said:

“If the TB patient is not understanding the language that you are communicating to them in, it is obvious that they will not adhere to treatment and such patients end up becoming ‘Lost to follow-up’ cases (Female healthcare worker One)”

Healthcare worker 4 reported:

“If a healthcare worker wants to know if a patient is having a hearing disability they were taught to observe the patients nonverbal behaviour, and after giving them instructions on how they were to take their medication, they were asked to repeat what they had been instructed to do. If they did not respond, then a sign language interpreter would have to be engaged and confidentiality of the patient would also be taken into account.

These findings are in line with those of Krulak et al., (2016) who established that proper disease management should include the doctor providing information in a language understandable by the patient. The doctors are expected to use a language that their patients can understand in the doctor patient interaction.

### **Discussion**

The findings of the study indicated that when healthcare workers used simple language during the doctor patient communication, the patients were more likely to adhere to treatment. In cases where there was a language barrier, a translator would be called upon to

assist with the translation of the medical information. These findings are similar to those of Nakiwala et. al., (2017) who conducted a study on language discordance between tuberculosis patients and healthcare providers challenging universal access. The study was conducted in 19 TB clinics in England and Scotland. The findings of the study indicated that majority of the healthcare workers felt that language barriers resulted in poor quality of care and negatively affected adherence to TB treatment due to challenges in understanding instructions. In addition, the findings of the study reported challenges in initiating relationships grounded on mutual trust with patients with whom they could not communicate in the same language.

Language barriers are likely to make the delivery of excellent healthcare difficult. Language barriers have an unfavorable influence on the standard of healthcare, patient well-being and the contentment of medical professionals and patients. The introduction of interpreter services to tackle these challenges results in the high cost of health services which eventually prolong the consultation time (Al Shamsi, Mutairi, Sulaim, Al Kalbani, 2020). Translated materials and interpreter services can help bridge language differences, though translations and interpreter services may not be fully accurate or complete. The challenge in translation is that not all languages have words for something that exists in other languages and cultures. The other challenge is that not all words and ideas can be easily translated into or expounded for in another language. In addition, some people may have weak literacy and numeracy skills in their native language, and hence translated materials may be too complex or technical for them to comprehend. To minimize this confusion, it has been recommended that matching certified translators and interpreters with the primary audience would be ideal. A good match occurs when the translator or interpreter gathers information about and adapts to the intended audience's language preferences, communication expectations, and health literacy skills (CDC, 2023).

## **CONCLUSION AND RECOMMENDATIONS**

### **Conclusion**

#### **Effect of Type of Language Used on TB Treatment Adherence**

The first objective of the study was to explore the effect of the type of language used on TB treatment adherence. The findings of the study showed that when healthcare workers used simple language during the doctor-patient communication, patients were more likely to adhere to TB treatment. The findings also showed that the type of language used by healthcare workers if not understood by the patient was likely to lead to non-adherence of TB treatment. Patients tended to adhere more to TB treatment if the healthcare workers used simple words that the patient would find easy to understand.

### **Recommendations**

The study's findings showed that the type of language used the doctor-patient communication can determine a patient's adherence to TB treatment.

#### **Recommendations to Policy Makers**

Policymakers should ensure that all healthcare workers should use simple language for the patient to understand. In addition, any health messages, appointment cards or any other TB information whether verbal or written meant for the patients, should be designed in a language that is easy to read and understand.

### **Recommendations to the Health Sector**

The Ministry of Health needs to inform doctors to be more aware on the type of language used during the doctor patient communication because it is bound to affect a patient's adherence to TB treatment

### **Recommendations to Academicians and Researchers**

There is a need to incorporate in the academic curriculum and training, on the type of language to be used when in regard to doctor patient communication in the management of tuberculosis disease.

### **Suggestions for Further Studies**

Further research on the type of language used during the communication and tuberculosis treatment adherence needs to be conducted. A quantitative research approach on doctor patient type of language used and tuberculosis treatment adherence is proposed as it will go further in enhancing the findings of this study.

To academicians and researchers, there is a need to conduct more studies on doctor-patient communication to improve treatment adherence for Tuberculosis disease. Through these studies, researchers can be able to identify more factors that can influence TB patients to adhere to treatment.

## REFERENCES

- Al Shamsi, H., Al Mutairi, A.G., Sulaim, A., & Al Kalbani, T. (2020). Implications of language barriers for healthcare: A systematic review. *Oman Med J.* 2020 Apr30;35(2): e122. Doi: 10.5001/omj.2020.40.PMID: 32411417; PMC ID: PMC7201401
- Centre for Disease Control, (2023). Health literacy. Retrieved from: <https://cdc.gov>
- Cleland, J., & Durning, S. J. (2015). *Researching medical education*. West Sussex: John Wiley & Sons, Ltd
- Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing* 2020, Vol. 25
- Hayden, J. (2019). *Introduction to health behaviour theory, (3<sup>rd</sup> ed.)*. New Jersey: Jones & Bartlet learning
- Jahan, F., & Siddiqui, H., (2019). Good communication between doctor-patient improves health outcome. *European journal of medical and health sciences* doi: 10.24018/ejmed.2019.1.4.84
- Krulak, K., Mogilnicka, I., Symonides, A., Kacperczyk, J., Dobrowolska, A., Romejiko-Wolniewicz, E. (2016). The importance of communication in patient-doctor relationship- A review *MEDtube Science* Dec, 2016: Vol. iv (4), 24-27
- LaMorte, W. (2022). *Behavioral change models*. Retrieved from <https://sphweb.bumc.bu.edu/mphmodules/sb/behavioralchangeTheories/BehavioralChangeTheories3.html>.
- Moyo, R., & Salawu, A. (2017). *Patients' perception of doctor-patient health communication in a rural community*. Retrieved from <https://www.researchgate.net/publication/3209031336>
- Nakiwala, D., Kellgren, L., & Herzmann, C. (2017). Language discordance between Tuberculosis patients and healthcare providers challenging universal access. *Eur. Respir J* 2017; 49: 1700116 Retrieved from: <https://doi.org/10.1183/13993003.00116-2017>
- Nezenega, Z.S., Perimal-Lewis, L., & Maeder, A. J. (2020). Factors influencing patient adherence to tuberculosis treatment in Ethiopia: A literature review. *Int J Environ Res Public Health.* 2020 Aug 4; 17(15):5626. doi:10.3390/ijerph17155626. PMID: 32759876; PMCID: PMC7432798
- Odone, A., Roberts, B., Dara, M. van den Boom, M., Kluge, H. & McKee, M. (2018). *The International journal of tuberculosis and lung disease*. Volume 22, Number 2, 1February 2018, pp. 133-138 (6) DOI: <https://doi.org/10.5588/ijtld.17.0608>
- Oliveire., & Lefevre, F. (2017). *Communication on disclosure of Tuberculosis diagnosis and adherence to treatment: Social representations of professionals and patients*. Retrieved from: <https://doi:10.1590/0104-07072017006790015>
- Panocova, R. (2017). *The vocabulary of medical English: A corpus-based study*. Newcastle: Cambridge scholars publishing

- Pressman, H., & Dickinson, R. (2016). *The cost consequences of unsuccessful patient communication*. Retrieved from: [Retrieved from: https://www.Patient-providercommunication.org](https://www.Patient-providercommunication.org)
- Panocova, R. (2017). *The vocabulary of medical English: A corpus-based study*. Newcastle: Cambridge scholars publishing
- Swain, S., Hariharan, M., Rana, S., Chivukula, U., & Thomas, M. (2015). Doctor patient communication: Impact on adherence and prognosis among patients with primary hypertension. *Psychol stud (January-March 2015)* 60 (1): 25-32 DOI: 10.1007/s12646-014-0291-5
- Ranjan, P., Kumari, A., & Arora, C. (2020). The value of communicating with patients' in their first language. *Expert review of pharmacoeconomics and outcomes research*. 20:6, 559-561, DOI: 10.1080/14737167.2020.1835774
- TB Vipasho newsletter Vol.10 (2018). *Finding the missing TB cases*. Retrieved from: <https://www.chs.kenya.org>
- Ministry of Health, Kenya. The National TB Prevalence Survey – Final Report (2016). Retrieved from: <https://www.chskenya.org/wp-content/uploads/2018/04/Final-TB-Prevalence-Survey-Report.pdf>
- The Pell Institute, (2022). *Analyse qualitative data*. Retrieved from: <https://www.toolkit.pellinstitute.org/>
- United Nations General Assembly. (2018). *Report of the of the special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context*. Retrieved from: <https://www.undocs.org/A/73/310/Rev.1>
- World Health Organization, (2020). *Ethical standards and procedures for research with human beings*. Retrieved from: <https://www.who.int/ethics/research/en/>
- World Health Organization, (2020). *Tuberculosis (TB) Fact Sheet*. Retrieved from: <https://www.afro.who.int/health-topics/tuberculosis-tb>