International Journal of
Communication and Public Relations
(IJCPR)

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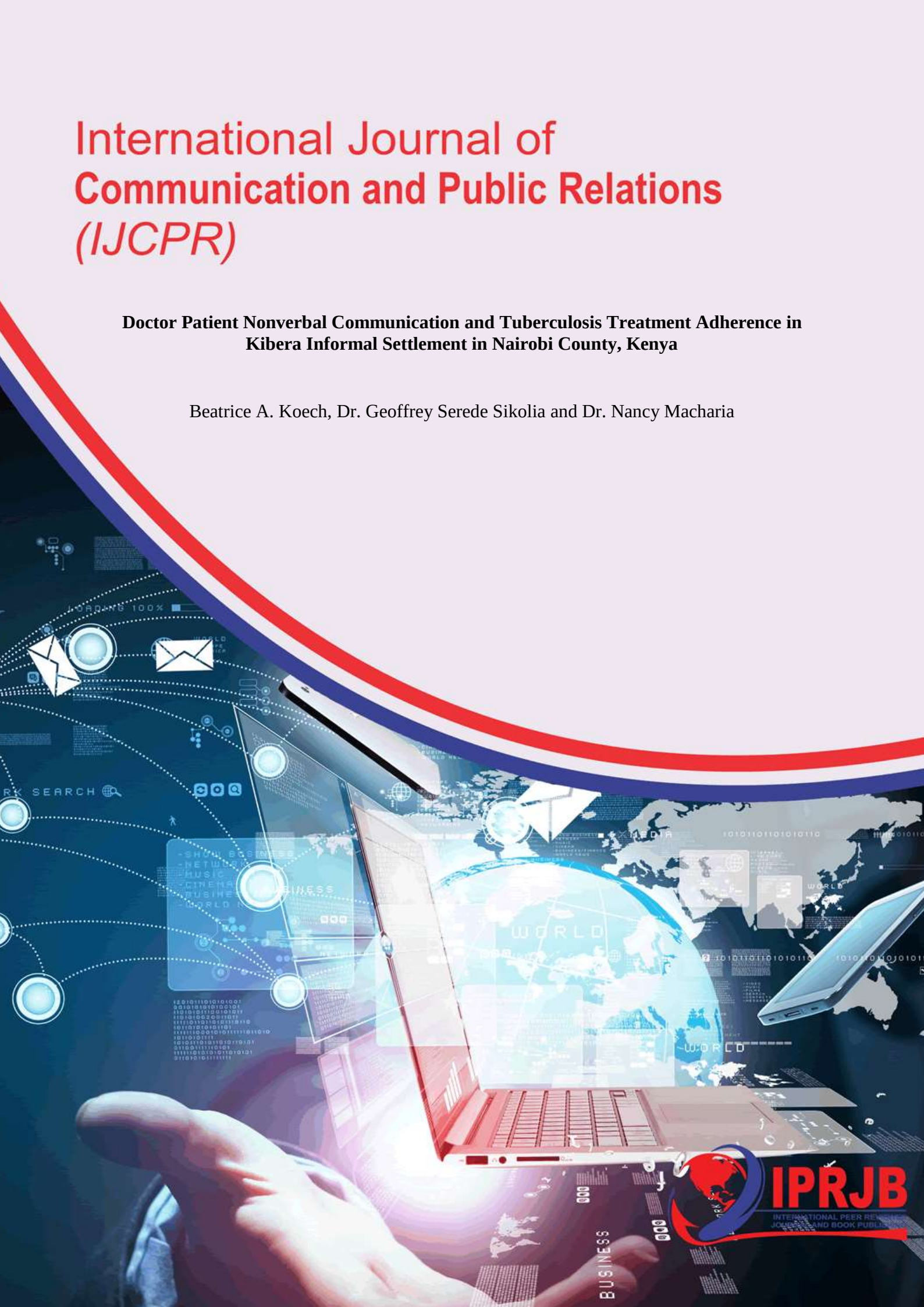

International Journal of Communication and Public Relation

ISSN 2520-7989 (Online)

Vol.8, Issue 4, No.3, pp 28 - 41, 2023

www.iprjb.org

Doctor Patient Nonverbal Communication and Tuberculosis Treatment Adherence in Kibera Informal Settlement in Nairobi County, Kenya

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Article History

Received 7th October 2023

Received in Revised Form 19th October 2023

Accepted 30th October 2023

How to cite in APA format:
Koech , B., Sikolia, G., & Macharia, N. (2023). Doctor Patient Nonverbal Communication and Tuberculosis Treatment Adherence in Kibera Informal Settlement in Nairobi County, Kenya. *International Journal of Communication and Public Relation*, *8*(4), 28–41. https://doi.org/10.47604/ijcpr.2166

Abstract

Purpose: To establish the effect of nonverbal communication 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.

Findings: The findings of the study reported that less than half of the patients in the in-depth interviews reported that some healthcare workers avoided eye contact with them when they are in the consultation room and kept writing down notes. About a half of the patients indicated that majority of the healthcare workers expressed positive non-verbal cues which motivated them to adhere to treatment. The findings further showed that non-verbal communication by the healthcare workers in terms of body language could determine a TB patient's adherence to treatment. This nonverbal communication entailed factors like rate of speech, volume of speech, facial expressions and gestures. A higher adherence rate by the patients when healthcare workers exhibited positive non-verbal communication was also reported.

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 their non-verbal cues when interacting with their patients as they are likely to affect their patients' adherence to treatment. In addition, policy laws on doctor-patient communication nonverbal communication should guide when dealing with patients. The laws should anchor the aspect of non-verbal cues during the healthcare workers' interaction with patients.

Keywords: *Treatment Adherence, Doctor-Patient Communication, Nonverbal Communication, Patients, Tuberculosis, Healthcare Workers.*

INTRODUCTION

Communication between a doctor and patient has a very important impact on health outcomes. It is a basic component of any relationship especially when it is between a doctor and patient. Communication is an essential and integral skill for establishing physician-patient relationships and for effective functioning among health care professionals (Johan & Siddiqui, 2019). Communication skills are not just restricted to talking, but also to listening and nonverbal communication. It is valuable for all healthcare professionals to know about nonverbal communication. This refers to such things as eye contact, gestures, body movement and posture, and it can also include facial expressions, repetitive movements of the extremities, or vocalizations. Nonverbal communication can convey a sense of warmth, empathy, caring, reassurance and support. On the other hand, it can also reflect a physician's disinterest, boredom, anger, irritation or disbelief. Doctors should do whatever is necessary to help patients feel they are receiving the doctor's attention throughout the interaction. The importance of understanding both verbal and nonverbal communication is vital. The doctor's capability to understand both verbal and nonverbal cues of the patient can help unveil important medical issues A doctor should have ability to understand the patient's internal state of being and any other concerns that may be concealed (Berman & Chutka, 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 19th 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 et al., 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 et al., 2020). Doctor-patient communication, apart from being important for accurate medical diagnosis, also warrants adherence to treatment as well as patient satisfaction (Ranjan et al., 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 et al., 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 the 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 establish the effect of nonverbal communication on tuberculosis treatment adherence in Kibera informal settlement in Nairobi County, Kenya.

Research Question

What is the effect of nonverbal communication on tuberculosis treatment adherence in Kibera informal settlement in Nairobi County, Kenya?

LITERATURE REVIEW

The communication that takes place within the healthcare industry is influenced by non-verbal components which are a crucial variable in doctor patient interactions. The doctor and patient's non-verbal communication is intimately linked. Communication that is non-verbal tends to be more visual. It is the communication that can be seen in a person's body language, eye contact, facial expressions and touch (Prusti et.al., 2022). Good communication is the one in which both doctor and patient understand each other. Head movement is one of the nonverbal communication ways that both doctors and patients use in their communication. Nonverbal communication can favour or impair meaning. Nonverbal communication is universal. All human beings use it, and it adds to or contradicts our verbal language to generate new meaning (Kantanda, 2018).

Doctor's body language has been known to affect patient care. Doctor-patient communication combines both verbal and nonverbal communication. A doctor's nonverbal communication or body language was thought to set the trajectory for treatment from the moment the patient first saw the doctor. Body language includes all forms of communication other than words, such as vocal tone, posture, facial and body movements. Effective nonverbal communication can be beneficial to patient engagement, treatment compliance and overall health outcome. Patients are also likely to adhere to treatment if doctors practice effective nonverbal communication. Healthcare costs are likely to come down including medical malpractice rates. Positive nonverbal communication was likely to make patients respond to care (Chahal, 2017).

Ranjan et al., (2015) established that a doctor's conversation with his or her patient is not just about the choice of words or language. The attention with which the doctor listens to his or her patient, along with his or her nonverbal cues such as the body language, posture, gestures and para-verbal components such as tone, pitch and volume, all convey a strong message. The researchers further establish that active listening is also a vital component of doctor patient communication. In addition to active listening, the researchers argue that it is essential for patients to feel that the doctor is actively attending to them and that they should not be interrupted while explaining their problems. They further argue that patients might not fully understand the nature, course or prognosis of the disease or the required treatment due to intellectual or linguistic barriers. Still, they sense the style of communication, which directly impacts their level of satisfaction, adherence to treatment and medical outcomes.

Communication with others does not end with words. In a conversation, messages are processed and there is a construction and reconstruction of senses, knowledge and thoughts. Both verbal and non-verbal communication also promotes marks in people by the language

expressed using gestures, facial expressions and emotions. In the doctor patient communication, silence, body language, the distance or space between individuals, as well as the arrangement of objects in the environment are all part of the process of communication (Oliveria & Lefevre, 2017). The goal of communication in the current health care setting is more than providing accurate information. Patients and their families routinely research symptoms and diagnoses online and often present with an impressive working knowledge of their condition (Anthony & Orsini, 2018).

Nonverbal paralinguistic elements need to be incorporated into the communication curriculum, with an emphasis on dialectic learning. Nonverbal communication skills play a huge role in the success of the doctor patient interaction. The communication between a doctor and patient is not a simple interpersonal interaction because it needs a proper understanding of the two participants' state of mind. It is important to increase doctor's awareness about how their negative emotions can affect patients as it impacts not only their nonverbal communication but also their verbal and content communication patterns, together with their attitudes towards patients and how patients ultimately perceive them (Kee et al., 2017).

According to Berman and Chutka (2016), doctor patient communication is not only restricted to verbal communication, but also listening and paying attention to the nonverbal communication. The initial time that a doctor converses with his or her patient is crucial because it is at this moment that meaning is gotten in the communication interaction. Most patients claim that doctors do not pay attention to what they are communicating during the doctor patient communication. Good communication skills by the doctor tend to lead to better patient adherence to treatment which eventually leads to improved health outcomes.

Kantanda (2018) conducted a study to find out meaning in doctor patient communication. The respondents in the study were doctors and patients. The research was conducted in a hospital through observation, interviews and library research. The observation helped listen to the conversation between the doctors and their patients. Qualitative research was used and was elaborated on the basis of conversation analysis. The study established that meaning in doctor patient communication was conveyed through nonverbal communication that is through utterances, gestures and actions. Both doctors and patients use voice for the utterances whereas gestures are also used to convey meaning. The gestures are often performed by using hands and arms. Facial expressions and action are performed to convey meaning. Head movements are mostly used to accept or confirm and deny or refuse a saying. Actions are used to explain a given instruction.

A patient surveys study conducted by Chahal (2017) to examine how a doctor's body language affects patient care. In the study, patient surveys revealed communication to be one of the most important competencies a health care worker should possess and that communication was not only what was spoken. In addition, a doctor's non-verbal communication or body language was thought to set the trajectory for treatment from the moment the patient first saw the doctor. The researcher argued that body language included all forms of communication other than words, such as vocal tone, posture, facial and body movements. The study noted that effective non-verbal communication can have significant effects on patient engagement, compliance and outcome. On matters of adherence, the doctor's ability to verbally and non-verbally communicate a safe encouraging and efficient relationship is crucial for patient adherence to treatment. Body language has been found to be beneficial for the doctors to distinguish patients

who are unwilling to adhere to treatment from those who are willing but are unable to do so. The researcher also found that effective non-verbal communication could have an influence on health care costs by reducing doctor shopping and malpractice rates and increasing effective care. Another finding from the study was that patients were found to respond more to care if they felt their doctor was not only engaged and sensitive to their needs, but also had positive non-verbal communication.

Oliveria and Lefevre (2017), conducted a study on communication on disclosure of Tuberculosis diagnosis and adherence to treatment. The study was concentrating on social representations of professionals and patients. The researchers used a descriptive and qualitative study. Both doctors and patients were included in the study. A semi-structured interview was conducted in which the participants were interviewed. The study found that communication does not always end with words. In a conversation, messages were processed and there was a construction and reconstruction of senses, knowledge and thoughts. Thus, both verbal and nonverbal communication should be taken into consideration in the doctor patient interaction.

Kee et al., (2017) conducted a study whose main purpose was to identify important communication skills that should be included in the communications curriculum by assessing from patient concerns, to examine how the communication intervals occur in a doctor patient communication. In the study four main themes of communication errors were found which included nonverbal, verbal, content, quality of information and poor attitudes. The findings of the study showed that doctors demonstrated poor respect and empathy for their patients. The study also suggested that patients made conclusions about how respectful doctors were, based on their nonverbal and verbal communication skills.

The study allowed for a deeper understanding of the gap between effective doctor-patient communications. The doctor's explanations during the doctor patient communication would be provided at a suitable level for the patient to allow for an accurate interpretation and assimilation of the information. The doctor was also expected to display good nonverbal skills, speak at an appropriate speed, maintain an engaging tone of voice and he or she should continuously display good body language that reflected genuine interest in the patient. The study also established that patients expected doctors to remain respectful and emphatic towards them. The doctors were also expected to be aware of their own emotions as well as for the patient. In addition to the above strengths, the study found it important to increase doctor's awareness about how their negative emotions could affect patients. Negative emotions by the doctors also affected not only their nonverbal and content communication, but also how patients eventually perceived them.

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 nonverbal communication on TB patient's treatment adherence. If a patient sees positivity in the nonverbal communication of the doctor,

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 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 et al., 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 Kiswahili 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

Results

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 fifity-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.

Non-Verbal Communication

Findings from the Tuberculosis Patients

A few of the patients reported that some healthcare workers avoided eye contact with them when they are in the consultation room and kept writing down notes. Half of the patients, that is about 28 of the patients, reported that the majority of the healthcare workers expressed positive non-verbal cues e.g gesturing them into the consultation room, giving them a welcome smile and sitting upright during the consultation. The patients indicated that these positive non-verbal cues, motivated them to listen to the HCWs instructions and eventually they adhered to the treatment. A few of the patients reported to feeling unwelcome, ignored and did not feel like they were being given the attention that they needed. These patients found it difficult to listen to the HCWs and eventually they did not adhere to treatment. The findings from the tuberculosis patients indicated that few of the patients were not affected by the doctor's nonverbal behavior whether positive or negative as long as they were given medication in order to get well.

Tuberculosis patient 4

"By the time you visit the doctor, you are extremely in pain and you really don't care whether the doctor is smiling or frowning so long as you are treated"

Findings from the Healthcare Workers

The Focus Group Discussion of Healthcare Workers comprised of three male and seven females who had been following up on the patients from their initial diagnosis to the completion of their treatment. On matters of knowing whether the patient was listening, the patient's nonverbal communication could be observed.

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.*

The results from the study indicated that seventy percent of the healthcare workers were able to confirm whether a patient understood instructions on how to take their medication by observing their non-verbal cues during the communication process e.g nodding of the head, maintaining eye contact, a show of satisfaction etc. The results also indicated that patients who exhibited negative non-verbal cues e.g slouching in their seats, fidgeting and crossing their arms were not likely to adhere to treatment. The healthcare workers observed that patients who have a good sitting posture, leaned forward to listen, kept their body still and maintained eye contact were more likely to adhere to treatment as opposed to those who expressed negative non-verbal cues e.g slouching on the seat, sneering or having a closed-off body language. The results also showed that when the patient was not responding to questions asked during the communication session, the healthcare workers would have to ask them to repeat what had been explained to them and if they are not able repeat it, there was a possibility that the patient was not listening and chances of not adhering to treatment were higher as opposed to those patients who were able to retell the instructions. The results equally showed that in cases where the body language of the patient showed that he or she was not paying attention e.g if the patient appeared to be absent minded, always yawning, having a blank stare when spoken to, the healthcare workers would conclude that the patient may be having a hearing disability. If it was confirmed, then a sign language interpreter would have to be summoned to assist with communication.

A study by Berman and Chutka (2016), established that doctor patient communication is not only restricted to verbal communication, but also listening and paying attention to the nonverbal communication. The initial time that a doctor converses with his or her patient is crucial because it is at this moment that meaning is gotten in the communication interaction. Most patients claim that doctors do not pay attention to what they are communicating during the doctor patient communication. Good communication skills by the doctor tends to lead to better patient adherence to treatment which eventually leads to improved health outcomes.

Tuberculosis patient 6:

> *"I do not care whether the doctor has a bad heart from their negative non-verbal cues, so long as they give me good treatment. Getting well is my main concern".*

Tuberculosis patient 13:

"For me I really get affected if I notice that the healthcare worker is showing me negative non-verbal communication for example if they sneer or frown while talking to me, it can make me not adhere to treatment. Other patients may not be affected by the doctor's non-verbal communication but for me it would affect me so much".

Tuberculosis patient 15:

"I once forgot to take my daily medication and the healthcare worker had to come to my house to bring me the medication. From their nonverbal communication, I could see that he was disappointed in me, someone does not have to talk to you for you to see that they are unhappy with you"

Discussion

The findings of the study indicated a higher adherence rate when healthcare workers exhibited positive non-verbal communication for example gesturing that they were welcome in the consultation room, and that when the patient was given a chance to talk, nodded as the patient talked to the doctor and vice versa. The study also revealed that negative non-verbal communication by the healthcare workers led to non-adherence to TB treatment. These findings are in line with those of Elliot et al., (2016) who conducted a study on verbal and non-verbal communication, positive non-verbal cues by the healthcare workers were found to influence togetherness, patient trust, the acceptance of the patient to adhere to the treatment schedule and the overall patient's satisfaction. These findings are comparable with those of Ekole (2022), who conducted a review whose aims were to identify the effect of nonverbal communication on a patient's health outcome during patient-centred care. The findings indicated that when a healthcare worker exhibited positive nonverbal cues while communicating with patients, satisfaction was achieved together with trust and adherence to prescribed treatment.

The present study findings were similar with those of Ahmed (2020) findings which showed that healthcare worker's nonverbal communication can either improve adherence or discourage treatment adherence depending on the nonverbal behaviour that is exhibited. The findings also showed that a healthcare worker's nonverbal communication that expressed general concern led to increased patient trust and adherence to treatment. The findings further showed that use of a tone which is authoritative by the healthcare worker would more likely lead to a patient's non adherence to treatment.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Effect of Non-Verbal Communication on TB Treatment Adherence

The study indicated an increased adherence rate when healthcare workers exhibited positive non-verbal communication. The study also revealed that negative non-verbal communication exhibited by the healthcare workers led to patient non-adherence of TB treatment.

Recommendations

Recommendations to Policy Makers

The Ministry of Health policy makers and stakeholders be tasked with designing non-verbal communication strategies/ policy for guiding medical personnel when dealing with patients.

Recommendations to the Health Sector

The study's findings indicated that patients who experienced positive non-verbal cues from the health care workers during the doctor-patient interaction were more likely to adhere to TB treatment. Therefore, the Ministry of Health needs to create more awareness on non-verbal communication amongst health care workers when interacting with patients by organizing workshops or training to empower them with appropriate skills.

Recommendations to Academicians and Researchers

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.

Suggestions for Further Studies

Further research on the effects of non-verbal communication and tuberculosis treatment adherence needs to be conducted. A quantitative research approach on doctor patient non-verbal communication and tuberculosis treatment adherence is proposed as it will go further in enhancing these study findings.

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