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Communicative Functions of Morpho-Phonological Adjustments in Kenyan Multilingual Clinical Discourse

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Abstract: *Communication is one of the key pillars of quality healthcare and is essential in clinical communication especially when dealing with chronic diseases like diabetes. In multilingual contexts like Kenya, where English is a second language in clinical interactions, communication challenges can impact treatment adherence and satisfaction among patients. This article investigates the communicative functions of morpho-phonological (MP) adjustments in the Diabetes Clinic of Machakos Level 5 Hospital, Kenya. Data were collected from audio-recorded doctor-patient, doctor-nurse, and nurse-patient encounters and analysed thematically based on Eckert's Three Waves of Variation Theory (2012). Results indicate that the four communicative functions of systematic use of phonological simplification, morphological blending, and prosodic modulation are empathy, clarity and understanding, patient empowerment, and professional authority. These changes were not arbitrary or incorrect, but were moulded through interlocutor type, the stage of consultation, and clinical practice. The findings show that morpho-phonological variation functions as a communicative tool or strategy and has implications for healthcare communication training and health policy in multilingual healthcare settings in Africa.*

Keywords: morpho-phonological adjustment, clinical discourse, Kenyan English, multilingual healthcare, healthcare communication, language variation

INTRODUCTION

Clinicians' capacity to convey complex biomedical information in a way that is comprehensible to patients who may not have access to the full range of their linguistic repertoire is the basis of healthcare delivery in multilingual societies. English is the official language for medical training and institutional practice in Kenya, yet it coexists with Kiswahili and many indigenous languages in the daily interactions of healthcare providers and patients. Hence, doctors and nurses regularly modify their English speech, mix languages, and alter their pronunciation when communicating with patients, adapting to the specific context of the interaction. Previous studies of multilingual workplaces (Gumperz, 1982; McGroarty, 2012) have documented such changes in language use, but the systematic functioning of these adjustments in the context of clinical talk, where the consequences of miscommunication are significant, has been under-studied, particularly in the Kenyan context.

In healthcare communication, the impact of such changes is especially pronounced, as it can directly influence patient outcomes. This is clearly brought into focus in the context of chronic disease management. Patients with diabetes need to understand the correct dosage instructions, diet, self-monitoring schedules, over a prolonged period, and any minor misunderstanding can lead to poor adherence and health consequences. Research on healthcare communication in linguistically diverse contexts has revealed that healthcare providers often adapt their speech to make it comprehensible to the patients (Chan et al., 2018; Kang & Kim, 2019; Al Shamsi et al., 2020), and structured support for communication has been linked to greater provider communication and better patient outcomes (Garcia et al., 2025).

Kenyan English studies have also recorded phonological and grammatical variation among other educated speakers in the society like teachers (Njoroge, 2008, 2017). Besides, the use of code switching as a resource that is used to fulfil social and pragmatic purposes in multilingual environments has been well reported (Myers-Scotton, 1993; Gitari, 2016). Studies in African setting have also continued to underscore the significance of multilingual communication practice in professional and institutional settings more recently (Kasamba et al., 2024). So far, however, most studies have been directed towards the decision of language choice, code switching, and language alternation between full language systems.

Therefore, few studies have focused on morpho-phonological changes as communication resources in clinical situations. Little is known about how healthcare providers modify pronunciation, word structure, and prosodic features to facilitate communication in multilingual healthcare encounters, particularly within African healthcare settings where English, Kiswahili, and indigenous languages coexist in routine clinical practice. This is a significant gap in the literature as the micro-level linguistic adjustments can be important for improving understanding, the facilitation of interaction, and the support of patients' participation in clinical encounters.

This study seeks to fill this void by exploring the case of a county referral hospital, Machakos Level 5 Hospital (MKS L5), which serves a multilingual community. Rather than considering morpho-phonological variation as evidence of second-language deficiency, the study adopts a sociolinguistic-pragmatic perspective that views linguistic variation as a communicative tool deployed in interaction.

In this view, language variation is purposeful, dynamic, and responsive to the communicative demands of clinical encounters.

This study is informed by Penelope Eckert's (2012) Third Wave of Variation Theory, which builds on the work of Labov (1966, 1972) that considers linguistic variables as resources that speakers use to create meaning and identity in a particular interaction. It shows how speakers use linguistic features to create meanings, negotiate identities and attain interactional goals within certain contexts. From this perspective, MP adjustments are not viewed as random linguistic errors but are strategic communicative choices that enhance patient understanding, empathy, maintain professional authority, and support patient engagement during consultations.

There is a significant body of literature on code-switching in whole language systems in both clinical and educational contexts in Africa (e.g., Myers-Scotton, 1993; Shidiavai, 2015; Kasamba et al., 2024), but this study will focus on the internal adjustments at the sound and word level consonant cluster reduction, consonant substitution, and morphological blending involving blending of English discourse with Kiswahili and Kamba affixes or phrases, and the suprasegmental prosodic modulation. These micro-level changes are systematic, empirically observable, analytically tractable, and well-suited for close linguistic description, while at the same time carrying clear pragmatic weight.
This article examines the communicative functions of morpho-phonological adjustments in doctor-patient (DP) interactions, nurse-patient (NP) interactions, and doctor-nurse (DN) interactions, in multilingual clinical discourse at the Diabetes Clinic of Machakos Level 5 Hospital, Kenya. It demonstrates how phonological simplification, morphological blending, and prosodic modulation function as communicative resources that facilitate clarity and comprehension enhancement, relational alignment and empathic convergence, professional authority, and patient empowerment in clinical interactions.

Theoretical Framework

Penelope Eckert's (2012) Third Wave of Variation Theory informed the analysis of morpho-phonological adjustments in multilingual clinical discourse. The theory extends Labov's Sociolinguistic Theory and conceptualizes linguistic variation as not a manifestation of social groups per se but as a means by which speakers shape meaning, negotiate identity, and achieve interactional objectives. The Third Wave is about social meanings that are constructed by speakers of language in certain contexts rather than the relationship of linguistic forms to social groups.

Linguistic variables have indexical meanings which enable speakers to situate themselves socially and interactively (Eckert 2012). Linguistic forms are not simply deviations from a general norm, but are stylistic tools which enable the speaker to communicate tenures, interactions, and social identities. Variation is thus seen as a socially meaningful practice that is part of interaction.

Such a view is important for multilingual health communication, where health care providers continually adjust their discourse to suit the linguistic backgrounds and communicative needs of consumers. In this context, morpho-phonological changes can have functions other than the mere transmission of medical information. They can help facilitate understanding, convey empathy, help to build rapport, preserve professional authority and foster patient engagement in consultations.

The theory was used to analyse the doctor-patient, nurse-patient and doctor-nurse interactions for instances of phonological simplification, morphological blending, and prosodic modulation. These forms and patterns were not seen as indicative of linguistic deficits or interference, but rather as communicative resources that were mobilised in an interactional way, as a response to the interactional needs of clinical encounters. In this perspective, morpho-phonological variation was seen as a social and communicative act with meaning for effective communication in multilingual health care contexts.

METHODOLOGY

This study adopted was a qualitative case study (Yin, 2018) with an interpretivist paradigm, which considers language behaviour as context-dependent and plausible only within naturally occurring interaction (Creswell, 2014). The study was conducted at the Diabetes Clinic (DC) of Machakos Level 5 Hospital, a county referral hospital in Machakos, Kenya, due to its linguistic diversity and chronic disease management needs that require frequent, sustained interactions in the clinical setting.
Participants included 6 doctors, 3 nurses, and 33 patients who participated in doctor–patient, doctor–nurse, and nurse–patient interaction. Clinical consultations were audio-recorded and structured questionnaires were used to collect data with healthcare providers. All recordings were made with informed consent and the researcher was not present during consultations, which reduced the influence of the researcher.

Consultations were tape-recorded in English and the relevant phonological features were transcribed using the International Phonetic Alphabet (IPA). Thematic and pragmatic analysis of the data was done, with attention given to any patterns of morpho-phonological changes, and the communicative functions served by such changes in the clinical interaction. Reliability and validity were enhanced through a pilot study, expert review of research instruments, and instrument refinement. Ethical approval was granted by the Tangaza University Institutional Scientific and Ethics Review Committee (ISERC2026/04/00150) and anonymity was ensured for the participants during the study.

RESULTS

Clarity and Comprehension Enhancement

The first communicative role of morpho-phonological adjustments was clarity and comprehension enhancement, especially in doctor-patient (DP) and nurse-patient (NP) dialogue. Technical medical language was systematically changed to fit the phonological and morphological patterns that were more familiar to patients, by the doctors and nurses. These deviations were not random and L2 deviations, but rather served to simplify the language and make it easier to access biomedical information.

Technical vocabulary was simplified in many cases by phonological means. Complex consonant clusters were simplified to the simple consonant-vowel patterns typical of Kiswahili and other Kenyan languages. For instance, the consonant cluster /sl/ in islet was reduced to /s/: D2 explained to P8, “If you have type 1 diabetes, it means your islet cells are destroyed and cannot produce insulin.” The patient clarified using the same simplified form, “Is islet the same as pancreas?”
D3 told P3, “We have to do an islet cells test to determine whether you have type 1 or type 2 diabetes.” The patient asked, “Doc, what are these islet cells?”

Consonant cluster /kstr/ in dextrose was reduced to /kr/: D3 informed P15, "Because your sugars are very low, we will give you dextrose that will help raise your sugar levels." The patient asked using the same simplified form, "Should I eat first before having the dextrose?" Such changes were also seen in words like diagnosis, gauze or glucose. These simplified forms were often repeated by patients when asked about them in the follow-up questions, indicating that the changes were not just the result of the clinician's preferences in pronunciation, but were part of a process that helped patients to understand the original form.

Morphological blending provided another boost to comprehension, as it blended English with Kiswahili and Kamba grammatical structures that were familiar to patients. A frequent example of this was Kiswahili tense markers being added to English verbs, such as in P12's answer to D6: "*ume-add* weight" ("you have added weight"). The patient then replied "*nime-add*" ("I have added") following the same construction. Other examples were code-mixed nouns phrases as N1 explained to P25, "any strip *haitumiki kwa* any machine" ("any strip is not used in any machine") and predicate hybridisation "HbA1c *iko juu*" ("HbA1c is high"). The constructions were maintained technically while providing enhanced linguistic accessibility.

This was corroborated by answers to the questionnaires. As D3 explained: "I avoid jargon when speaking to patients for them to understand their situation better. When need be, I use the words that get the message home.". The results thus indicate that phonological simplification and morphological blending were intentional communicative strategies that helped the clinicians to minimize misunderstandings and ensure the transmission of essential medical information.

Relational Alignment and Empathic Convergence

The second communicative function was relational alignment and empathic convergence. Emotionally sensitive moments are common within clinical encounters related to chronic disease management, such as diagnosis, sub-optimal glycaemic control, and lifestyle modification. Under such circumstances, doctors and nurses not only modified what they said, but also how they said it.

Prosodic modulation proved to be an important inter-actional resource. Doctors and nurses intentionally slowed their speech and inserted pauses to allow for accurate perception of speech by their patient, while minimizing patient anxiety. Slower speech rates during explanations of medication use, diet change and self- monitoring procedures decreased cognitive load and provided patients with more time to process information. Rising and falling intonation patterns also were used effectively to convey reassurance, urgency, or confirmation.

One of these was a patient with a new diagnosis who was told by D3: "Do not worry. Diabetes is manageable and you will live a normal life". The patient asked, "Will I be able to have kids who don't have diabetes." By contrast, when talking about behaviours of safety, a more rigid prosodic contour was employed: D6 showed urgency to P18, "Anytime you feel weak or dizzy make sure to check your sugars immediately." The patient replied, "I mostly forget my glucometer but now I will be carrying it."

These adjustments lessened interpersonal space and led to a more supportive interactional environment. Strategic morphological blending and localised phonological forms further facilitated interpersonal solidarity, turning consultations into collaborative discussions. The results suggest that

morpho-phonological changes not only served as means of conveying information but were also used to express empathy and establish a trusting relationship with the patient.

Professional Authority and Institutional Divergence

Morpho-phonological adjustments played a third communicative role of maintaining authority and institutional roles of the doctors and nurses. This was particularly noticeable during doctor-nurse (DN) interactions, with a significantly lower number of adjustments made than in doctor-patient (DP) and nurse-patient (NP) interactions.

The data indicated that the doctors and nurses tended to use the technical terms and more standardised pronunciation when interacting with each other. For instance, D6 informed N3, “Send the patient to the nephrologist. His urine test suggests albuminuria”. Similarly, N2 asked D3, “Should the patient continue taking glimepiride?”
There was little phonological simplification or morphological blending in these exchanges, in contrast to those in which the patient participated, since both participants were knowledgeable and experienced with biomedical terminology. Technical jargon was retained, which facilitated communication, diagnosis and patient care.

The results indicate that accommodation was not equally distributed for all types of interactions. Rather, the linguistic behaviour of the doctors and nurses was adapted depending on the communicative needs of the interlocutor. Patient interactions facilitated simplification and adaptation, while professional interactions facilitated precision and following institutional discourse norms. It is observed that the incidence of the adjustments in DN discourse is lower, which indicates that morpho-phonological variation can also be used as a means of professional expertise and occupational identity.

This pattern is consistent with Eckert's (2012) argument that language is a socially meaningful act of choice and is context-dependent. In this study, doctors and nurses used an alternating paradigm of two different speech styles: accommodative and non-accommodative as appropriate to the situation for the interaction to be accessible or precise. Morpho-phonological adjustments, then, were not only a means of understanding but also an asset in maintaining professional boundaries, credibility and authority in clinical practice.

Patient Empowerment and Shared Decision Making

Patient empowerment and shared decision making was the fourth function of communication that emerged from the data. Doctors and nurses were able to provide patients with more opportunities to participate in consultations by reducing linguistic barriers and presenting medical information in formats that patients would have been able to understand. They used simplified forms, blended forms, and supportive prosodic strategies and observed patients asking follow-up questions, seeking clarification, and expressing preferences in treatment and lifestyle recommendations.

Patients were no longer merely recipients of medical directions, but were rather active in talking about their own health management. This was especially noticeable during medication adherence, dietary modification, and blood sugar monitoring consultations, when patient questions and negotiations led to clarity and practicalities of treatment. A crucial part of this was the morphological blending, which enabled patients to interact with the technical medical concepts with familiar linguistic structures. Blended forms like “*nime-add*” following the use of “*ume-add* weight” by clinicians reflect a full

understanding and even an active role in engaging with the language of the consultation. Such interactions suggest that the patients were not just receiving information but that they were appropriating and taking part in their communicative repertoire.

The results also indicate that when consultations shifted from a unidirectional information exchange to a dialogue, patient empowerment came into play. Through biomedical concepts being more accessible and the social space that often exists between institutional care environments diminishing, morpho-phonological adjustments allowed patients to be more active in the decision-making process. Linguistic accommodation thus served as a communication tool that facilitated a patient-centred approach to healthcare, and enhanced engagement with managing chronic health conditions.

The results suggest that the morpho-phonological adjustments in multilingual clinical discourse is the extension of linguistic variation. They serve as strategic communicative tools that improve understanding, aid interpersonal harmony, sustain professional authority, and enable patients to engage more meaningfully in health-related dialogues.

DISCUSSION

The results show that multilingual clinical discourse does not simply consist of random deviations from standard English, but rather communicative resources that are strategically used to maximize interactional possibilities to meet communicative goals. The changes in doctor-patient, nurse-patient, and doctor-nurse interactions were all social and communicative in nature and varied by interlocutor, context, and communicative goal, in line with Third Wave of Variation Theory espoused by Eckert (2012). Based on this, the study suggests that linguistic variation could be considered as a resource that is used to make meaning, and not as a sign of linguistic inadequacy or first language interference.

The results of the clarity and comprehension enhancement phase showed that phonological simplification and morphological blending worked well in conveying the complex biomedical information. Adapting technical terms to terms more familiar to the patients lessened barriers to communication and enhanced understanding. These findings are in line with Al Shamsi et al. (2020) who believe that language barriers have a negative impact on healthcare communication and patient outcomes. In the same way, Gemechu et al., (2023) concluded linguistic accessibility is a crucial aspect of communication and quality healthcare delivery in a multilingual context. The current research builds on this work by showing that morpho-phonological changes could serve as useful, practical linguistic tools for enhancing comprehension in clinical situations.

The results also show that morpho-phonological adjustments played a role in the achievement of relational alignment and empathic convergence. Doctors and nurses used prosodic modulation, morphological blending, and the effective use of familiar linguistic forms to minimize interpersonal distance and to ensure supportive communicative contexts. The results are consistent with those of Nissen and Meuter (2023), who believe that the use of accommodation strategies in health communication increases trust, empathy, and rapport between health professionals and patients. In the current study, the changes noted served in part as a resource for information and in part as a resource for a better clinician-patient relationship.

It has also been noted that morpho-phonological changes took place in a selective manner based on communicative context. The doctor-nurse interaction tended to reinforce technical precision and a standardized professional discourse while the patient-centred interaction tended to reinforce accommodation and simplification. This finding further sustains Eckert (2012)'s view that the linguistic resources are manipulated by the speakers in accordance with the demands of the context. Additionally, it aligns with the findings of Kasamba et al. (2024) who found that institutional expectations and communicative demands influence language practices in the workplace. The lower frequency of adjustments in other exchanges such as professional ones implies that linguistic variation also serves as a marker for professional identity, expertise, and institutional authority.

Another aspect of the study is that patient empowerment and shared decision-making are identified as outcomes of morpho-phonological accommodation. Doctors and nurses made medical information more accessible, provided opportunities to ask questions, seek clarification, and actively engage in healthcare decision making. This result aligns with Kim et al. (2024), who highlight the importance of patient-centred communication in boosting patient engagement, participation and healthcare experiences. This discovery adds to previous studies on healthcare communication that, beyond comprehension, morpho-phonological adjustments can aid in patients' participation and engagement in the management of chronic diseases.

In summary, the results indicate that morpho-phonological adjustments is an integral part of the communicative repertoire in multilingual healthcare contexts. They support understanding, enhance relationships, uphold professional authority and support patient centred care. The study consequently reframes the morpho-phonological variation in Kenyan clinical discourse as communicative means instead of a linguistic issue and notes its relevance in multilingual healthcare communication in Africa.

Implications for Research and Practice

Implications for Research

The study makes a contribution to sociolinguistic and healthcare communication research by showing that morpho-phonological adjustments are strategic communicative resources and not random linguistic deviations. It is built on Eckert’s (2012) Third Wave of Variation Theory to multilingual healthcare settings and highlights the need for more research on linguistic accommodation in clinical discourse in different healthcare contexts and speech communities.

Healthcare Practice

The findings highlight the significance of communication skills in multilingual healthcare settings. Healthcare professionals should be trained to adapt their linguistic choices to the communicative needs of the patient through appropriate simplification, morphological blending and prosodic modulation. These strategies may improve understanding, build relationships between clinicians and patients, and increase patient involvement in health care decisions.

Implications for Policy

The study suggests that healthcare institutions should recognise multilingual communication practices as valuable resources rather than deviations from professional norms. Incorporating patient-centred

communication strategies into healthcare training and policy may contribute to improved healthcare delivery and more effective management of chronic conditions in multilingual settings.

Contributions to Knowledge

This study has three significant contributions to knowledge. First, it takes the Third Wave of Variation Theory proposed by Eckert (2012) to multilingual healthcare communication and shows that morpho-phonological variation is a socially meaningful communicative resource in clinical communication. Second, it goes beyond the predominant emphasis on code switching and language choice and draws attention to the communicative function of phonological simplification, morphological blending and prosodic modulation in health care discourse. Third, the study results validate the empirical contribution from a Kenyan multilingual healthcare environment, where morpho-phonological adjustments facilitate clarity and comprehension enhancement, relational alignment and empathic convergence, professional authority, and patient empowerment. The results offer insights into the issue of linguistic accommodation in the multilingual communication of the health care sector and clinical practice more generally.

CONCLUSION

The findings have revealed that doctors and nurses in the Machakos level 5 Diabetes Clinic systematically modify the phonological and morphological features of their clinical English and that these modifications are used to play four interlocking communicative roles, which include: clarity and comprehension enhancement, relational alignment and empathic convergence, professional authority and institutional divergence, and patient empowerment and shared decision making within a chronic-disease management context in the clinic. Because these patterns are not randomly distributed, they are not the result of uncontrolled first-language interference, but rather of interlocutor type, consultation phase, and clinical experience, and therefore represent a systematic linguistic repertoire that is pragmatically motivated.

The conceptualization of morpho-phonological adjustments as strategic communicative resources, rather than a deficit in English as a Second Language (ESL), has significant implications for medical education in multilingual contexts: medical education for multilingual healthcare workers in Kenya might explicitly include reflective practice on morpho-phonological adjustments, in addition to plain language guidance. Replication of this analysis in other clinical specialties, other sites, and over time across patient outcomes would provide insight into the generalizability of this accommodation and evidence that these strategies have a positive impact on adherence and satisfaction in chronic disease care in a linguistically diverse healthcare system across Kenya.

Future Research

Future research should examine morpho-phonological adjustments in other clinical contexts, such as paediatric, oncology and mental health care, to test generalisability of the findings. Further longitudinal studies are also needed to explore the relationship between morpho-phonological accommodation and patient outcomes such as treatment adherence, glycaemic control and patient satisfaction. Furthermore, intervention studies could evaluate communication training programmes based on morpho-phonological adjustment strategies to assess their effectiveness in improving clinician communicative competence and patient outcomes. Finally, future research should explore the effects of social factors

such as gender, age, ethnicity and socio-economic status on morpho-phonological accommodation practices and their communicative outcomes in multilingual healthcare settings.

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