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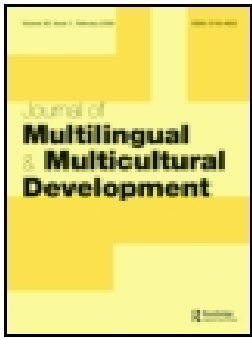


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Switching of language varieties in Saudi multilingual hospitals: insiders' experiences

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ABSTRACT

Different languages, dialects, accents, or other forms of language (a.k.a. codes or varieties of language) are used in various healthcare facilities around the world. However, only a limited number of studies have explored the switching of varieties in healthcare environments. Hospitals in Saudi Arabia are multilingual and multicultural workplaces, where people of diverse nationalities either work or visit as patients. This study investigated codeswitching phenomenon in Saudi hospitals from the experiences of the healthcare workforce and patients. Semi-structured interviews were conducted with 37 participants with various nationalities, mother tongues, and work roles in a government hospital. The interviews data were transcribed and qualitatively analysed. Analysis results show that different unique types of varieties are used in the Saudi hospital due to the background characteristics of its workforce and patients. Moreover, the analysis reveals several motives for the mixture of language varieties in the healthcare industry. These motives can be obligatory and, in most cases, optional. The findings also show positive and negative attitudes toward the language varieties alternation. However, the attitudes of the participants are mostly positive because they believe that the codeswitching and codes mixing increases their work efficiency. This study thus recommends further investigation on the use of various varieties in healthcare facilities around the world.

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Introduction

The mixture of varieties is a linguistic phenomenon that is manifested in multilingual workplaces. A code or a variety of language refers to a language, an accent, or a dialect. Hudson (1996) defined a variety or a code as a set of linguistic items with a similar social distribution such as English, French, American English, London English, and the English of football commentaries. According to his definition, a variety can be a language, a dialect, and a register. Therefore, a mixture of varieties or a codes alternation refers to altering or switching between languages, dialects, and registers during a conversation by multilingual speakers (Hudson 1996). Codemixing and codeswitching are common types of the mixture of varieties. The two terms are so closely related that some researchers use them interchangeably because both terms involve hybridisation of words, phrases, clauses or even full sentences of two or more languages. However, some researchers differentiate between both terms. They refer to codeswitching as varieties alternations that speakers do intentionally in a particular setting or for a particular purpose such as expressing themselves with a personal style. While codemixing is varieties alternations that speakers do unintentionally due to linguistics requirements such as speakers do not know the correct word or phrase.

Language varieties changing in conversations is caused by several factors and has different consequences. Such a systematic phenomenon can provide a unique window to the structural outcomes of language contact. The codeswitching is systematic rather than aberrant. Thus, it can be studied as a reflection of social constructs and cognitive mechanisms that control language switching (Bullock and Toribio 2009). Most of the codes alternation studies have focused on educational environments and for educational purposes. By contrast, the switching of varieties phenomenon in the workplace, particularly in healthcare environments, has been rarely studied and thus warrants further examination. For example, the motives and the emotional and attitudinal effects of the codeswitching in the healthcare environment must be understood in order to improve the communication process and the efficiency in the healthcare settings. The understanding of the factors and consequences of the mixture of codes will help provide effective interventions and improve the quality of communication in healthcare workplaces.

The motivations of the present study are as follows. Most of the switching of varieties studies are conducted in the educational environments. Works that examine the alternation of varieties in the workplace are inadequate in quantity and their focus. There are few published studies, and the mixture of varieties is not the primary objective of these studies. Only a limited number of studies explore the alternation of codes process in the healthcare environment. Studies that explore Saudi hospitals, in which several languages and dialects are used daily, are few. Moreover, most participants in the codeswitching studies in the Western context are multilingual immigrants and students, whereas those in the Saudi context are multilingual job seekers. This unique workplace environment may present distinct types of language varieties that have unique reasons and different emotional effects on healthcare practitioners and patients. Accordingly, this study contributes to the literature by exploring the mixture of varieties in healthcare workplaces, particularly in Saudi hospitals, which has not been explored from the sociolinguistic perspective. This study fills the research gap by presenting the types of varieties and the switching of varieties in a unique multilingual hospital in Saudi Arabia, analysing the motives of such phenomenon, and evaluating the emotional and attitudinal consequences of the adoption of the alternation of codes in the hospital.

Literature review

The use of the mixture of varieties in workplaces, such as hospitals, is an important research topic because it examines people's use of languages in real-world situations (Weber and Horner 2017). In the published literature, the terms 'mixture of language varieties', 'mixture of varieties', 'codeswitching', 'language alternation', 'codemixing', and 'language mixing' are used to describe the alternate utilisation of language varieties (e.g. languages, dialects, accents, and styles) within a discourse. In this research, these terms will be used since they refer to linguistics switching processes in conversations (Hudson 1996). Besides, the research data are based on the participants' experiences using interviews rather than analysing recorded conversations between participants. Although different definitions have been presented for codemixing, codeswitching and language alternation, the use of these terms will help readers to understand the language varieties alternation using different terms that refer to the same linguistic phenomenon. In addition, the terms (e.g. switching of varieties, mixture of codes, and varieties alternation) have a broad definition that fits the diversity of language varieties in the study context. The researcher will use specific terms (codemixing and codeswitching) when it is necessary based on the definitions in the introduction section.

Researchers have adopted several theoretical models to explain the mixture of language varieties. Popular models include the markedness model (Myers-Scotton 1993), politeness theory (Brown and Stephen 1987), communication accommodation theory (Giles, Taylor, and Bourhis 1973), and interactional sociolinguistics (Gumperz 1982). Besides, codeswitching researchers have used different tools to collect data, such as interviews, audio and video recording, questionnaires, and observations. By using survey and interview methods to collect data, Bager-

Charleson et al. (2017) found that language switching is less significant in surveys but is a central theme in interviews. Most published codeswitching studies performed qualitative analyses to examine the phenomenon because such analysis provides a deeper understanding and present the perspectives of participants with more details than quantitative analyses. Also, the mixture of language varieties is a conscious and unconscious process. Communicators may or may not be aware that they have switched between languages, accents, or dialects in a conversation (Wardaugh 2006).

The codes alternation is performed with different motives, such as filling linguistic gaps and achieving conversational aims (Bullock and Toribio 2009), using quotations and targeting specific individuals in groups (Gumperz 1982), and showing identity (Kachru 1978). Dewaele (2013) investigated language preferences for emotions among 1569 multilingual speakers. He found that codeswitching significantly occurred more frequently when participants discussed personal or emotional topics. Dewaele (2013) realised that speakers prefer to codeswitch to verbalise their emotions quickly. Codeswitching has become an acceptable option when the speaker realises that expressing his emotions in a weak output language, possibly with unwanted pragmatic effects, would take too much time. People also engage in the mixture of varieties for religious reasons. Harmaini (2014) found that Muslim native English speakers use Arabic words in their dialogues to show their religious identity rather than lexical deficiency. The lack of lexicons is another motive for the mixture of varieties. Bouzemmi (2005) found that Tunisians switch between Arabic and French in specific topics due to the lack of vocabulary, we can refer to this linguistics switching more precisely as code-mixing (see the definition in the introduction). Tunisians use French words in their Arabic discourse because they do not know the Arabic equivalents of certain words. Occasionally, French words may be more appropriate than Arabic for specific conversation subjects. Comprehensively listing all the reasons for the mixture of varieties is difficult because of the unique characteristics of each multilingual context.

Published research generally presents positive attitudes toward the switching of varieties. Dewaele and Wei (2014) conducted a large-scale study on 2070 multilingual speakers using an online questionnaire. The results showed a generally positive attitude toward the codeswitching. The researchers concluded that the codeswitching is linked to personality, language learning history, and current linguistic practices. In another study, Dewaele and Wei (2014) found that friends, family, and colleagues significantly affect participants' self-reported questionnaire on the mixture of varieties. Participants who grew up and worked in a multilingual environment reported frequent use of codeswitching in their conversations. The researchers concluded that the frequency of self-reported use of the alternation of varieties is mediated by the personality of the multilingual. Dewaele and Wei (2014) deduced that the personality of the interlocutor plays an important role in the frequency of using the codeswitching along with situational, complex socio-biographical, and environmental factors. The interlocutors' genders, extraversion personalities and cognitive their empathy are linked with their higher self-reported codeswitching. Female participants reported more frequent mixture of varieties than male participants with their friends and on more emotional topics. The researchers believe that the positive correlation between extraversion and the self-reported alternation of codes can be explained if we see the mixture of varieties 'as a form of impulsive linguistic risk-taking, or verbal acrobatics, giving the speaker a certain thrill' (p. 16).

Dewaele and Costa (2013) used an online mixed method questionnaire to understand the experiences of 182 multilingual clients from different countries who had various therapeutic approaches. The researchers found that clients significantly use or initiate more mixture of varieties than their therapists. The frequency of the codes alternation is correlated with the raising of the emotional tone. Participants stressed that the alternation of varieties helps them to express themselves to the therapist fully. The researchers also found no gender effect on the frequency of the mixture of varieties. Dewaele and Costa (2013) realised that multilingual clients benefit from a therapeutic environment where multilingualism is appreciated and where they can use the codeswitching. Odebunmi

(2013) examined the practical features and functions of the varieties used by doctors and clients in Nigerian hospitals. He divided doctor–client interactions into four discourse stages: opening, diagnostic interaction, announcement, and closing. Two variety selection types were used throughout the four stages: non-strategic and strategic. Non-strategic choices are governed by cultural, institutional, and linguistic practices. Strategic choices are characterised by context-shaping and context-determined acts. In non-strategic choices, codes are used to express phatic communication, show deference, and display personal styles. Codes in the strategic level are employed to accommodate disliked code choices, relax tension, flaunt competence, assure, avoid humiliation, joke, reformulate, and warn.

The need to deliver linguistically and culturally appropriate healthcare education is being increasingly recognised. Thakkar et al. (2016) converted an English text message back into Hinglish (Hindi–English hybrid) to educate people about coronary heart diseases in North India. The results revealed that Hinglish messages were easily understood (93%) and useful (78%) for the patients. The researchers concluded that the use of Hinglish for the upper class in India is more effective than that of pure English and a hybrid language can be a useful mode of communication. Bager-Charleson et al. (2017) stressed the need for multilingualism training to understand multilingual clients' narratives, especially in core psychotherapy courses. The researchers suggested that including personal and professional development components in training sessions about multilingualism will allow learners to consider the impact of multilingualism in their work environment. Ortega (2018) supports research that investigates whether certain awareness-raising training about multilingualism (e.g. Bager-Charleson et al. 2017; Gross and Dewaele 2018) may have a positive impact on monolinguals who serve multilingual speakers, such as therapists. 'Exposure to other languages may lead to more human empathy, democratic values, and critical global citizenship' (Ortega 2018, 22). Costa and Dewaele (2018) stressed that due to immigration to Western countries, an increasing number of multilingual people had sought counseling and psychotherapy. However, Costa and Dewaele realised that the training for therapists and counselors in treating multilingual patients is scarce. The researchers conducted training about multilingual awareness for counselors and therapists and found that it improved the confidence and multilingual awareness of counselors and therapists. The interviewed participants felt increasingly able to use multilingualism as a therapeutic asset in the treatment of trauma and other presenting issues.

The switching of language varieties appears substantially in a multilingual context. The more diverse the context in terms of languages, accents, dialects, and registers, the more frequent the mixture of varieties phenomenon appears. Wood (2018) stated that the codeswitching had been thoroughly described in social science research. However, the codeswitching is relatively unknown in medical research despite its practical implications for the health workforce. Candlin and Candlin (2003) advocated the collaboration of applied linguists, professional practitioners, and social science researchers in the exploration of healthcare communication in multilingual and multicultural contexts. Nonetheless, only a few research studies have been conducted in the healthcare setting. The difficulty of access to the healthcare environment is the central factor that prevents applied linguists from performing such studies. In addition, awareness of health organisations on the importance of research that focuses on the mixture of varieties in the healthcare industry limits the funding opportunities for applied linguists. In Saudi Arabia, Almathkuri (2016) investigated the use of language alternation between Arabic and English by the employees of King Abdul Aziz Specialist Hospital to explore the motivation behind the alternation of codes from a sociocultural perspective. He found that the employees switch between languages due to conditions and/or constraints arising from the institutional setting and certain cultural beliefs and norms. As a result, cultural differences delineate, and cultural issues arising from the use of a foreign language are overcome. However, people in Saudi hospitals have languages and dialects other than Arabic and English.

Research questions

The literature shows that few alternation of varieties works have been conducted in the healthcare environment. Although Saudi healthcare facilities are multilingual, only a limited number of the mixture of language varieties studies have been performed in Saudi hospitals. Moreover, the primary focus of these published works is not the codes alternation. Instead, they discuss the codeswitching only partially and provide limited analysis of the phenomenon. Thus, the present research examines the following questions.

- Q1. According to the participants' experiences, what types of the mixture of varieties are used in Saudi hospitals?
- Q2. According to the participants' experiences, what are the motivations for the alternation of varieties in Saudi hospitals?
- Q3. According to the participants' experiences, what are the emotional and attitudinal consequences of the codes alternation inside hospitals?

Methodology

In Western countries, most research that discusses multilingualism and codeswitching, codemixing, borrowing or pidgins was prompted by the influx of multilingual immigrants and refugees. Published research about multilingualism in the Western context reveals that researchers have focused on immigrants and refugees as the cause of multilingualism (e.g. Ortega 2019; Panicacci and Dewaele 2018). In the Saudi context, multilingualism is triggered by job-seeking purposes. Job seekers do not plan to stay in the workplace. They have to return to their countries once their contract is not renewed or they resign from their job. By contrast, immigrants are those who plan to stay and integrate into the new context.

Saudi hospitals are super diverse multilingual and multicultural workplaces. One-third of Saudi Arabia's population comprises non-Saudis who come to the country mainly for work purposes. They also represent one-third of the patients who visit Saudi hospitals daily. Moreover, more than half of the physicians and nurses are not Saudi nationals. They come from Arabic-speaking countries, such as Egypt, Jordan, Morocco, Sudan, Syria, and Yemen, and non-Arabic-speaking countries, such as Afghanistan, Bangladesh, India, Indonesia, Pakistan, the Philippines, Sri Lanka, and Turkey. Different language varieties, such as languages, dialects, and accents, are used every day in Saudi hospitals due to this diversity.

The present research was conducted in a Saudi general hospital, which is supervised by the Ministry of Health in Saudi Arabia. Thirty-seven participants were selected on the basis of their first languages and dialects to include speakers of different languages, dialects, and roles in the hospital. The researcher interviewed them individually, recorded the interviews on a portable device, and used predesigned questions as a guideline during the interviews. What varieties do you they speak or hear in the hospital, why do they use these varieties and what their attitudes toward the mixture of varieties or what do they think others believe about the codes alternation in the conversations. When, why, and where do you mix language varieties in the hospital and how their colleagues or patients feel about the codeswitching? Further questions were asked during the interviews to elicit additional information from the participants. The use of a semi-structured interview is an effective tool for eliciting people's experiences and stories. Bager-Charleson et al. (2017) found that language switching is less significant in surveys but is a central theme in interviews. The interviews were conducted with physicians, nurses, allied health personnel, cleaners, and patients. The researcher selected participants on the basis of their languages and occupations inside the hospital to represent the different voices and experiences of the people related to the hospital.

Ethical issues were considered throughout the research period. Permissions from the hospital administration and the Institutional Review Board were obtained before the research was conducted.

The participants' voluntary agreement to partake in this study was obtained using consent forms written in Arabic and English. Before the interviews, the researcher presented the interview questions to the participants for reading before they agreed to participate. The following [Table 1](#) summarises the participants' nationalities and varieties.

To analyse the data, the researcher repeatedly listened to the interviews before transcription, focusing on the mixture of varieties and issues related to the research questions. The participants' statements, which discussed types of varieties, motives for the use of varieties, and attitudes toward the alternation of codes, were transcribed. After transcribing the statements, the researcher set themes next to each statement. After that, the researcher classified these themes into categories and linked them.

Results and discussions

Answers to the first question

Data analysis revealed the use of language varieties inside the multilingual hospital. [Table 2](#) summarises the varieties used by communicators in the facility. These varieties are classified into five major categories: regional English, hybrid Englishes, Arabic language varieties, mother languages other than Arabic and English, and non-verbal language. These types of codes are common in Saudi healthcare facilities given the unique background features of Saudi healthcare workforce and patients. This rich environment of varieties indicates the importance to conduct more research on multilingual workplaces. This supports Weber and Horner's (2017) views on the importance of examining people's use of languages in real-world situations, especially in multilingual environments.

A. Conversation in Arabic varieties

The first category presents the language varieties related to the Arabic language in the context of the present study. The first variety is modern standard Arabic, which is the official language of the hospital and the variety used in formal settings inside the facility. This language is used by all Arabic speakers in the hospital, including educated patients. The second type is the Arabic variety based on the home country of the speakers. Although this type differs from Arabic that is spoken within each Arabic-speaking country, the discussion to present distinct types of the Arabic language is based on the country. Inside the hospital, several Arabic dialects are spoken, of which the Saudi Arabic dialect is the most common. Egyptian Arabic is also used because many employees and patients are from Egypt. Speakers from Sudan use Sudanese Arabic, and Syrian Arabic is another example of Arabic dialects based on the home country. Most Arabic dialects are known to all Arabic speakers regardless of their home country. In most Arabic-speaking countries, diglossia involving modern standard Arabic and the local dialects exists (Albirini 2016; Bassiouney 2009). Diglossia is observed in the Saudi hospital due to the diversity of native Arabic speakers. The third type is Gulf Arabic Pidgin, which is a simplified communication dialect used by the non-Arabic workforce in Gulf countries in the Middle East. In Saudi Arabia, this Arabic dialect was developed to communicate with non-Arabic speakers due to the diversity of the workforce. For example, 'Rafeeq inta mafih mushkilah', 'My friend you have no problem', 'Ssadeeq inta maloom hatha nafar', and 'My friend

Table 1. Participants' nationalities and varieties they speak.

Arabic-speaking countries	Country Varieties	Saudi Arabia Saudi Arabic	Jordan Jordanian Arabic	Yemen Yemeni Arabic	Egypt Egyptian Arabic	Syria Syrian Arabic	Palestine Palestinian Arabic	Sudan Sudanese Arabic
Non-Arabic-speaking countries	Country Varieties	India Hindi, Malayalam, Tamil	Pakistan Urdu, Panjabi, Saraiki	Indonesia Indonesian	Philippines Filipino, Tagalog	Nepal Nepali	Sri Lanka Tamil, Sinhala	Bangladesh Bengali

Table 2. Types of varieties in hospital.

a. Arabic Language	Modern standard Arabic Arabic dialects based on countries: Egypt, Jordan, Saudi Arabia, Sudan, Syria, and Yemen Gulf Arabic Pidgin (non-Arabic-speaking labour force)
b. Regional Accents of English	English in Southeast Asian countries: Philippines and Indonesia English in South Asian countries: India, Pakistan, and Bangladesh English in Arab countries: Saudi Arabia, Sudan, Egypt, Syria, and Jordan
c. Hybrid Englishes	Taglish: a mixture of Tagalog and English Hinglish: a mixture of Hindi and English Arabglish: a mixture of Arabic and English
d. Mother Tongues other than Arabic	Mother languages of the workforce: Bengali, Hindi, Indonesian, Nepali, Tagalog, Tamil, and Urdu Mother tongue of patients: Amharic, Chinese, Somali, Thai, and Turkish
e. Non-verbal	Body language Written translation of medical records and reports Disease symptom signals: eyes, tongues, and facial expressions

do you know this person’. Almoaily (2013, 2014) found that the first language (e.g. Malayalam, Bengali, and Punjabi) and the number of years of stay in Saudi Arabia seem to have little effect on the participants’ Gulf Arabic Pidgin in terms of the studied morphosyntactic features in his studies.

B. Conversations in regional accents of pure English

The second category is the varieties of English spoken in a particular area, which commonly emerged in the health context of Saudi Arabia. English as a first language is spoken in different parts of the world, such as America, Britain, and Australia. As a second language, English is spoken in India, Kenya, and the Philippines. The tone of spoken English has specific characteristics in each region. In this study, three common types of regional accents of English are spoken in the hospital. The first one is English spoken in Southeast Asian countries, such as the Philippines and Indonesia. Southeast Asian English is spoken by Filipino and Indonesian nurses. Therefore, it is the most common variety of English used in the hospital because most of the nurses are from the Philippines. The second variety of regional accent is South Asian English, which is also called Indian English. It is spoken by people from the Indian subcontinent. A large number of the workforce comes from India, Pakistan, Bangladesh, and Sri Lanka. The third type of regional accent is Arabic English, which is spoken by those who speak Arabic as their mother tongue. The mother tongue (Arabic) shapes the specific characteristics of spoken Arabic English to the extent that listeners can identify the speaker’s native language or region when they speak in English. Moreover, English speakers in each region have different accents due to the influence of social and linguistic factors such as the influence of the mother tongue when speaking English.

C. Conversations in hybrid Englishes

The third category comprises of hybrid Englishes. Hybrid English refers to hybrid forms based on English mixed with other languages such Chinese, Hindi, Korean, and Spanish to create a new form of communication such as Chinglish, Hinglish, Konglish, and Spanglish (Lambert 2018; Schneider 2016). For instance, native Arabic speakers will use English in their conversation with another Arabic speaker, or a Hindi native speaker will use English words in his sentences for a person who can understand both languages. The participants mentioned the use of three common types of hybrid Englishes: Taglish, Hinglish, and Arabglish. Taglish is created by mixing English and Tagalog languages instead of switching between sentences in pure Tagalog or English. Taglish speech follows the rules of Tagalog grammar but employs English nouns and verbs in place of their Tagalog counterparts. For example, ‘Have you **printed** the report?’ becomes ‘**Na-print** mo na ba ang **report**?’ The second type of hybrid English is Hinglish, which is the hybrid use of English and South Asian languages from across the Indian subcontinent. For example, in English, ‘Research shows that quitting smoking will halve chances of a heart attack’. In Hinglish, it becomes ‘Research (anusandhaan)

batate hain ke bidi-cigarette-tambaku ke tyaag se heart attack kaa chance aadhaa ho jaataa hai'. The third type of hybrid language is Arabglish, which is used by Arabic-speaking physicians and nurses. Arabic-speaking physicians commonly use English terms within their Arabic conversations because they were trained in English. For example, an Arabic-speaking doctor will say 'This patient needs an x-ray'. In Arabglish, the statement becomes 'Hatha patient yahtaj ela x-ray'. The results support the findings of previous studies showing effective positive outcomes of using hybrid Englishes. For example, Thakkar et al. (2016) found that the use of Hinglish is an effective strategy to easily communicate with Indian patients in Australia.

D. Conversations in pure mother tongues

The fourth category presents two varieties of foreign languages other than Arabic and English, which are common in Saudi hospitals. Arabic and English languages and their variants are discussed in detail in the previous sections because they are the major languages in the hospital. This category presents other foreign languages that are used daily in a Saudi hospital. These foreign languages were categorised on the basis of the positions of the speakers in the hospital. The first type is the use of mother tongue in the workforce. The employees come from many non-Arabic-speaking countries and hence speak different mother tongues. The major mother tongues of the healthcare providers are Hindi, Tagalog, Urdu, Indonesian, Sri Lankan, and Nepali. These languages are commonly used in Saudi hospitals due to the large number of the workforce who speak these languages. The second type includes languages that have no mother tongue speakers inside the hospital. Patients come from different parts of the world and work in companies with their countrymen, so they do not speak Arabic and English. Foreign companies, such as Chinese and Turkish firms, have contracts to conduct projects inside Saudi Arabia. The company usually brings the majority of workers from the same country. Therefore, the workers do not need to speak Arabic or English because they work with people who speak their languages. However, Chinese- and Amharic-speaking patients face difficulties when they need to visit a Saudi hospital because no speakers can understand their language. In this case, the company provides translators to assist the patient in the hospital.

E. Non-verbal: sign language and written translation

The last category includes non-verbal languages that are used in the hospital based on the interviewees' experiences. Two types of non-verbal languages are used in the hospital. The first type is body language, which is used when the doctors or nurses cannot understand the patient's first language or the patient cannot fluently speak Arabic or English. The participants mentioned that they may use body language to give instructions to patients or hospital visitors when the latter cannot understand the official hospital languages (Arabic and English). However, switching to the use of body language is limited to non-critical situations. If the doctor or nurse realises that they must communicate with a hospital visitor in detail, they ask the hospital to provide a translator of the patient's language. The second type is written translation. It is the language alternation from English into Arabic or vice versa in the written language of reports and letters. This alternation happens in official letters and is mainly used for administrative purposes. The last type of non-verbal communication switch is disease symptom signs. Physicians read the disease symptoms that are manifested in the patient's body, such as tongue, eyes, and facial expressions. This shift into another type of communication is commonly used in hospitals. The disease symptoms sign code is one of the most critical codes in the hospital that physicians and nurses must understand. This large number of varieties that are used to communicate shows that different factors play in the increase of codeswitching in the context of this study. For example, Dewaele and Wei (2014) found that along with the personality of the interlocutor, situational, complex socio-biographical, and environmental factors play important roles in the frequency of using codeswitching. They found that friends, family, and colleagues significantly affect participants' self-reported questionnaire on codeswitching. Also, the increasing number of codeswitching is linked to personality, language, learning, history, and current linguistic practices (Dewaele and Wei 2014).

Answers to the second question

On the basis of the participants' experiences, the motives for the alternation of varieties can be classified into two categories. The first category is the obligatory codes mixing, in which the participants must mix varieties from one language to another or from one dialect to another to communicate. The second category is the optional switching of varieties, in which the participants are not enforced to mix varieties but still prefer to mix varieties from one language to another or from one accent to another for several purposes. These motives in the two categories indicate that the codes alternation has a system and this phenomenon can be studied and analysed. It is not an arbitrary phenomenon. This supports Bullock and Toribio's (2009) claim that the mixture of varieties is a reflection of social constructs and cognitive mechanisms that control language switching.

a. Obligatory mixture of varieties

The obligatory switching of varieties occurs when a communicator cannot understand the spoken language. The speaker must shift to communicate with the listeners. From the analysis, three situations where the obligatory switching of codes arise were identified, and all obligatory mixture of varieties happened with languages but not with dialects or accents. Table 3 summarises the situations in which the mixture of varieties is obligatory in Saudi hospitals. The motives for the obligatory alternation of varieties can be filling linguistic gaps and achieving conversational aims (Bullock and Toribio 2009).

The first situation is when the interlocutor cannot understand the spoken language. Several examples were mentioned by the participants when they must shift from one language to another because the other person cannot understand the language. The participants stated that they experience specific difficulties communicating with some nationalities when they have no medical staff of these nationalities, such as Chinese, Somali, and Ethiopian patients. Some patients from these countries cannot understand English and Arabic, and no person in the hospital can understand their mother languages. In this situation, they ask patient affairs to provide translation services to communicate with them. Another example involves medical staff who cannot speak Arabic. They face difficulties in communicating with Arab patients and hospital employees who are not fluent in English. In this case, medical staff asks colleagues who can speak both languages to help them translate. New non-Arabic-speaking doctors depend on nurses to communicate with patients in outpatient clinics. For administrative issues, they also ask some of their colleagues to help them finish their paperwork in the administrative offices, where the staff is not fluent in English.

The second situation is where the speakers must shift to a language because rules and regulation require it. The participants mentioned that medical reports must be written in English. Therefore, Arabic-speaking doctors and nurses use English to write medical reports that are used within the hospital. However, they must translate these English-written materials to Arabic when they send them to government agencies outside the hospital because doing so is required by regulation.

The third situation is when the communicator shifts to using words or terms from other languages because he does not know the equivalent term in the language he is using. This situation mostly happens to Arabic-speaking doctors, who communicate with one another in Arabic. However, they use English medical terms in their conversation because they do not know the term in Arabic. This language shift happens because of limited vocabulary. The motive for codeswitching to quote words and terms (Gumperz 1982) from the English language in Arabic conversation shows the need to fill in linguistic gaps (Bullock and Toribio 2009). In a different context, Bouzemmi (2005) found the same results. Tunisians switch to French in specific topics due to the lack of

Table 3. Obligatory mixture of varieties situations.

Obligatory	The addressee does not speak the official languages of the hospital (Arabic or English).
Obligatory	Mixture of varieties is required by rules and regulations, such as in the translation of reports into Arabic.
Obligatory	The vocabulary is limited.

vocabulary. They use French words in their Arabic conversation because they do not know the Arabic equivalents of certain words.

b. Optional mixture of varieties

The second motive category is the optional switching of codes. Interlocutors alter between languages and accents that they understand for reasons that they may or may not be aware of. This finding goes in line with Wardaugh (2006) who stated that interlocutors may or may not be aware of switching between languages, accents, or dialects in their conversations.

The following are the optional causes for the mixture of varieties in the hospital. Table 4 summarises the two types of optional motives: conscious and unconscious.

In the first motive, the interlocutors codeswitch to avoid possible misunderstandings. Arab doctors will use English terms with Arab colleagues because some English medical terms have more than one equivalent term in the Arabic language. The unified translation of English medical terms among Arabic countries is difficult. Translation of medical terms by the Arabic Language Council in Syria is different from the translation made by the Arabic Language Council in Egypt. Moreover, non-Arabic-speaking doctors sometimes avoid the use of Arabic words with patients and colleagues lest they mispronounce them and cause misunderstanding.

The second motive for codeswitching is the desire to practice other languages and dialects. Non-Arabic-speaking participants mentioned that Saudi hospital employees sometimes insist on speaking with them in English because the employee would like to improve his English language proficiency. The same case happens to non-Arabic-speaking nurses and physicians who would like to practice Arabic with their colleagues to be able to speak the language with patients.

The third motive is to be friendly and to create a certain sense of humour. This motive arises more with accents and dialects than with languages. For example, a Saudi employee may shift to the Egyptian accent when talking to his Egyptian colleague. Moreover, Egyptian nurses or doctors may alter their accent to Saudi accent and use local Saudi terms with some of their patients to make the patient smile and feel happy as they attempt to use his dialect. Odebunmi (2013) found similar results in the Nigerian context. He found that the codes alternation is used in doctor–client interactions to relax tension, joke, reformulate, and warn.

The fourth motive is the feeling of comfort when shifting to the native language. Medical staff shift to using their mother tongue with their colleagues because they feel comfortable and relaxed. They easily communicate using the language that they are proficient in. For example, Indian nurses shift to using Hindi in the clinic with other Indian nurses because they feel comfortable doing so. In addition, native Arabic speakers in the hospital shift to Arabic occasionally even in the presence of non-Arabic-speaking colleagues because it allows them to easily communicate with other Arabic-speaking colleagues, especially when they aim to discuss non-job-related issues. Dewaele (2013) also realised that the codeswitching significantly happens frequently when participants discuss personal or emotional topics. The speakers prefer the mixture of varieties to verbalise their emotions quickly.

The fifth motive is to establish a common background. Medical staff shift to speaking in their mother tongue with colleagues from the same country. Such is the case with Filipino nurses who use Tagalog with other nurses, out of the desire to feel that they are from the same country and

Table 4. Optional motives for mixture of varieties in hospital.

Optional Conscious Motive	To avoid misunderstanding
Optional Conscious Motive	To practice the language
Optional Conscious Motive	To be friendly
Optional Conscious Motive	To be comfortable (easy to communicate)
Optional Conscious Motive	To establish common or shared backgrounds
Optional Unconscious Motive	Easy to remember the vocabulary for the speaker
Optional Unconscious Motive	Easier to understand for the addressee

speak the same language. The feeling of belonging to a particular community is another motive for codeswitching within diverse medical facilities. Kachru (1978) explained that one of the motives for codeswitching is to show identity. In a different context, Harmaini (2014) found that Muslim English native speakers use Arabic words in their conversations to show their religious identity rather than lexical deficiency.

The second type of optional motives happens without the communicator's awareness of codeswitching. The first motive is the natural output. Arabic-speaking doctors use English medical terms because these come to their mind before Arabic medical terms. Doctors can easily remember English words because they have learned medicine in English. Although they may know the Arabic equivalents, they will use the English medical terms in Arabic conversations with their colleagues.

The second motive is for fast input. The listener can quickly comprehend. The person shifts and uses phrases and words from another language because the speaker thinks that the listeners will rapidly understand his point. Arabic-speaking doctors use English medical terms in Arabic conversations because they will be comprehended fast. In addition, non-Arabic-speaking nurses use Arabic phrases with colleagues who are not fluent in English to be understood quickly. Similarly, Dewaele (2013) found that codeswitching is common when the speaker realises that expressing his emotions in a weak language would take time, possibly with unwanted pragmatic effects.

Answers to the third question

The switching of varieties phenomenon in multilingual hospitals creates different attitudes among the medical staff and patients. These attitudes can be classified into two categories. The first category is negative attitudes toward the mixture of varieties in the hospital. Such attitudes create an unhealthy working environment. The second category is positive attitudes toward the codes alternation in the hospital. These attitudes help colleagues work and communicate well.

A. Negative attitudes

The analysis of the interviews revealed three critical negative attitudes toward the mixture of varieties in the hospital. The participants mentioned these attitudes in specific situations. Table 5 summarises the negative attitudes.

The first attitude is the feeling of suspicion. Arabic-speaking patients feel suspicious when Arabic doctors start to use English in their presence. The patient may feel that they have a severe problem, and the doctors do not want them to be aware of it before the latter performs a medical check and confirms it. This point was stressed by the interviewed patients who cannot understand English. This negative feeling may decrease the trust between patients and doctors, which may lead to negative consequences. Thus, physicians should avoid the use of language that their patients cannot understand, even when talking to other physicians or nurses. In the context of this study, the health workforce uses the switching of varieties more than patients. This contradicts findings in other countries. For example, Dewaele and Costa (2013) found that patients codeswitch more than their physicians.

The second attitude is the feeling of hiding information and knowledge. New medical staff, such as Arabic nurses, may feel that their senior nurses are hiding information when they shift from English to Tagalog or Hindi, even when the latter does not have such intent. The feeling of hiding knowledge and information mostly happens with new medical staff and trainees, who aim to know every work detail. Thus, when senior medical staff shift to speak a language that new colleagues cannot understand, the new colleagues will feel that they are missing important information. Therefore,

Table 5. Negative attitudes toward mixture of varieties in hospital.

Negative Attitude	Feeling of suspicion when doctors start to speak in English while the patient is listening
Negative Attitude	Feeling of concealing information from colleagues
Negative Attitude	Disrespect

medical staff should cooperate with one another and use the official language of the hospital. In the context of this study, Arabic and English are the official languages that recommended by the Ministry of Health in Saudi Arabia.

The third attitude is disrespect. Some medical staff may feel that using languages other than English, especially those that they are not proficient in, is disrespectful. In some cases, healthcare providers may use their mother tongue to communicate with colleagues who share the same language. Other colleagues who cannot understand the language will have negative attitudes toward this behavior. The participants mentioned that this attitude is uncommon, but the use of the official language of the hospital is still recommended to prevent misunderstandings.

B. Positive attitudes

The analysis showed more positive attitudes than negative ones toward the alternation of varieties in the hospital. These positive attitudes indicate that the mixture of codes phenomenon is preferred in the hospital because it is an effective communication strategy and prevents communication barriers. Several positive attitudes are created due to the alternation of codes in a multilingual hospital. [Table 6](#) summarises the positive attitudes toward the switching of codes in the context of this study.

The first positive attitude is the feeling of belonging to a community in a diverse place. The alternation of varieties to the mother tongue, especially with colleagues who share the same language, creates a feeling of belonging to a particular group inside a multicultural hospital. This feeling arises when they use their mother tongues. This attitude may help physicians and nurses extend their contract and continue to work in the hospital for a lengthened period. Meeting people who share the same language and culture in a multilingual workplace increases the positive feeling toward the workplace. Consequently, the switching of varieties will increase the productivity of employees in the healthcare environment. The motive of showing identity by using the codeswitching (Kachru 1978) leads to positive attitudes because the alternation of codes helps the speakers to express their identity and it helps the addressees to understand their colleagues' backgrounds in more details. It also creates a welcoming work environment where the workforce can practice the language variety that they prefer or feel that it is more appropriate in the context.

The second attitude is caring. Patients feel that they are being taken care of thoroughly when the medical staff shifts to using the patients' first language. To communicate effectively, to provide better health care, and to understand the patients' medical history are the main reasons for providing the translation services in the patients' first language. Providing a translator in the hospital gives the patient a feeling of care. Some patients cannot speak the two official languages of the hospital. For example, the participants mentioned that they occasionally have Chinese patients who work for construction companies. The hospital contacts the company's Chinese-English translator when the Chinese patient visits the hospital. Moreover, Arabic-speaking patients appreciate that non-Arabic speaking doctors attempt to speak to them in Arabic. This action gives Arabic patients the feeling that the doctors are taking care of them.

The third attitude is completing the required job. When the translator finishes the translation process, he feels that he has completed the job required of him. Accomplishing the required task arises in completing the translation job. Certified translators conduct the mixture of languages or translation of an official document from Arabic into English or vice versa translators. Although the translator is performing his task, the other medical staff will have the feeling that the translator is doing the official job.

Table 6. Positive attitudes toward mixture of varieties in hospital.

Positive Attitude	Feeling of belonging to a group within the hospital community
Positive Attitude	Caring about patients
Positive Attitude	Performing the required job translation of written texts
Positive Attitude	Feeling of staff diversity
Positive Attitude	Need to learn new languages
Positive Attitude	Friendliness and humour

The fourth attitude is the need to learn languages. The switching of varieties between languages creates a need among medical staff to learn new languages. The medical staff may feel that they must learn a new language because this particular language is used in the hospital. The feeling of the need to learn foreign languages arises due to the alternation of languages in a multilingual hospital. A multilingual workplace increases the desire of the employees to learn languages. This attitude will have positive consequences because employees will start learning languages. By learning a new language, they will learn about the culture of the country where the language originated. Therefore, the effectiveness of communication with their colleagues inside the workplace is proven.

The fifth attitude is the feeling of friendliness. The alternation of varieties to a particular accent or dialect may create a feeling of friendliness, especially with patients and administrative workers in the hospital. Non-Saudi Arabic-speaking nurses mentioned that patients feel that the nurse is friendlier when she attempts to speak in the Saudi dialect than when she speaks other dialects. The results of this question match the results found in different contexts (Dewaele and Wei 2014).

The results of this study recommend the increase of multilingual awareness among health employees. Campaigns about multilingualism benefits and effectiveness in communication will increase the health workforce's positive attitude and the use of the mixture of varieties in the work environment. This strategy has also been recommended in previous research (Costa and Dewaele 2018; Dewaele and Costa 2013; Gross and Dewaele 2018; Ortega 2018). Previous research shows that multilingual patients benefit from a treatment where multilingualism is appreciated and where the patients and health workforce can use the mixture of varieties. Future research can investigate whether awareness training about multilingualism may lead to effective communication and high positive impact on the treatments of patients. The results of this study are also in line with those of Wood (2018), who stressed the need for more research about the codeswitching in medical studies due to its practical implications for the health workforce.

Conclusion

The results of this study present new varieties where the switching of varieties phenomenon is commonly used in a multilingual hospital. Unique codes are presented due to the diversity of the health-care workforce and patients in a Saudi hospital. The researcher classified these varieties into five categories: Arabic language varieties, regional accents of English varieties, hybrid Englishes varieties, mother tongues other than Arabic varieties, and non-verbal varieties. Each of the five categories presents several types of varieties that are practiced in the hospital daily. These varieties together might not be practiced daily in hospitals in other countries due to the unique backgrounds of the health workforce and patients in the context of this study.

In addition, the results show two main types of motives for the alternation of varieties: obligatory and optional. The analysis shows three main reasons to mandatory mix language varieties. One of the interlocutors does not speak the official languages of the hospital (Arabic or English). The interlocutor codeswitches because it is required by the hospital regulations, usually switching to speak Arabic or English. The interlocutor codemixes because of the vocabulary limitation. The results also show seven main reasons for optional switching of codes: to avoid misunderstanding, to practice the language, to be friendly, to be comfortable, to establish common or shared backgrounds, to easily remember the vocabulary for the speaker, and to easily understand for the addressee. The interlocutor can be conscious and unconscious of these seven motives for codes alternation as illustrated in Table 4.

The analysis shows that the participants are not enforced to switch varieties in most cases. However, they still alter between accents and languages to avoid misunderstanding and to effectively communicate with colleagues and patients. This motive leads to more positive attitudes than negative ones toward the switching of varieties in the hospital. The results show three main negative attitudes: feeling of suspicion among patients, feeling of concealing information among colleagues, and feeling

of disrespect among colleagues. However, the research results show six positive attitudes toward mixture of varieties in the healthcare environment as illustrated in Table 6.

Although Candlin and Candlin (2003) advocated the collaboration of research that examines language in healthcare, few studies about the switching of varieties in healthcare have been published, especially in multilingual and multicultural healthcare contexts. Future studies need to investigate the alternation of codes in different multilingual healthcare contexts. Each multilingual health workplace has its characteristics. Thus, the attitudes and motives for the mixture of varieties may be different, depending on the participants in each context. The replication of this study in private Saudi hospitals may reveal different outcomes regarding the codes alternation. Future studies can provide a fruitful understanding of switching of varieties in different countries that have multilingual healthcare institutions. The varieties used, motives, and attitudes toward these varieties may be different because each country has its population characteristic regarding dialects and mother tongues. Future studies may also study the alternation of codes in other workplaces, such as factories, construction sites, and offices, to compare the difference between varieties, motives, and attitudes toward them.

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