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LANGUAGE BARRIER AND THE PUBLIC HEALTH SECTOR OF BIHAR

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Abstract:

This particular study investigated the manner public health coverage, scope, and access was affected by the language barriers in Bihar. There were other studies that the language barrier affects the health care access, scope, and coverage. In addition, language barrier usually existed in a multilingual society.

The study was conducted using a grounded method using both qualitative and quantitative data. A scientific review of the literature was followed by structured interviews of patients, their families, public health practitioners, and administrators. Numerous case studies of different public health organizations and institutions were conducted in different parts of Bihar. The interactions between public health practitioners and patients were recorded. The study was conducted in different parts of Bihar among the people with different native languages.

The study had an interdisciplinary significance, especially for public health management, applied linguistics, applied sociology, social medicine, and clinical sociology. In addition the research would be significant for medical education & research, public health management, health information management system, technology, and social control of health institutions.

Key words: Language Barrier; Public Health; Healthcare Access; Health Care Coverage; Public Health in Bihar.

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Introduction:

Bihar is included in the list of eight Empowered Action Group (EAG) states where health indicators are worse in the country (MOHFW 2015). Although, several health indicators have moved favorably since inception of the National Rural Mission NRHM) / National Health Mission (NHM), however, still the quality, regularity, and accessibility of the public health services has not increased satisfaction. Even it has been found that public health coverage in Bihar has been still around 35 percent, which was 33 percent at the time of freedom (Sharma 2015).

Equity and equality in the health care are two concepts that are closely related, but not one and the same. While equality is well-defined, easily understood and measured, equity is not. Language barrier promotes both inequality and inequity in health care. Equal quality of care for all means that providers must ensure that everyone gets the same high standard of professional care. However, when healthcare providers do not offer the same standards and quality of care to all individuals regardless of age, gender, religious belief or ethnic background, inequities will inevitably arise (Whitehead, 1985).

It is not only language barriers which may represent a challenge in healthcare, but also cultural differences in the perception of health/sickness and the sickness role, experiences of illness, help-seeking behavior and health literacy level. A language difficulty is perhaps the easiest problem to detect because it is often the most obvious one. Even so, there are usually no common procedures for systematically assessing the need for language assistance and ensuring adequate help. The public health care providers, who usually have little or no training in how to evaluate patients' language abilities and often have no clear procedures for how to follow up after facing language barriers, seem often to be left alone to make the decisions themselves. Even when a professional interpreter is attained, communication problems can arise due to lack of knowledge and skills on the part of healthcare provider regarding how to work together with the interpreter for optimal communication. Healthcare institutions have responsibilities to ensure competency and procedures in their organizations in order to be able to give optimal health services to diverse populations for equal access and quality care for all.

Along with language barriers to effective communication in healthcare there are other potential barriers. Inadequate health literacy of patients is one of the reasons for difficulties in communicating effectively the treatment procedures or prescriptions in consultations and non-compliance. Health literacy refers to a mismatch between the health care provider's level of communication and the patient's level of comprehension of the medical information given to them. Health literacy is not the same as literacy and is described elsewhere as an individual's ability to read, understand and use basic health information and services to critically evaluate the information and make appropriate health decisions. Health literacy requires a group of abilities like reading, understanding, remembering the information obtained, analyzing and decision-making skills. Language barriers can occur under many settings at public health centers. It can take place

between the patients, their attendants, health center staff, doctor, or nurse.

Language barriers compromise quality of care and patient safety. They affect patient satisfaction and whether or not patients will return to a particular health care institution. They can result in higher health care costs from inefficiencies such as unnecessary testing of patients with whom providers can't communicate. They can even frustrate providers who want to serve all patients equally and to the best of their abilities.

A language barrier is a metaphorical phrase used primarily to refer to linguistic barriers to communication, i.e. the difficulties in communication experienced by people or groups speaking different languages, or even dialects in some cases (Oxford Dictionary 2005). Grierson's Linguistic survey of India (LSI) has listed Bhojpurī, Maithilī, and Magahī as three main native languages of Bihar, referred as Bihari language (Grierson 1990). In addition, two minor languages Angikā and Vajjikā are also spoken in some areas. Most of native Biharis write Hindī as their mother tongue, however Hindī is not a native language in Bihar and has emerged mainly after independence. All the three languages in Bihar have distinct grammar and phonology quite different from Hindi. There are more than 20 million Magahi speaking people in Bihar. Magahi is spoken in ten districts of Bihar and Jharkhand including Patna, Jehanabad, Gaya, Nalkanda, Nawadah, Mungher, Aurangabad, Latehar, Garwa, Hazaribagh, Ramgarh etc. All those Bihari languages resembled mutually to some extent, however, they are distinctly aloof and apart from Hindi. English is also used by educating people and in courts and government offices. Due to globalization and international development efforts English has established itself majorly in Bihar especially in writing. Amidst presence of several languages, the language barriers in Bihar are more than usual, however, that has not been documented and presented appropriately. All those languages are phonologically distinct and has a great degree of communicative competitiveness with other languages (Prasad 2008). Maithilī (Tirhutiā) and Māgadhī (Magahī) in the east and Bhojpurī in the west, extending into the southern half of Chota Nāgpur. Maithilī, spoken in the old country of Mithilā (Tirhut), was famous from ancient times for its use among scholars, and it still retains many antiquated linguistic forms. Magahi, though now generally written using Devanagarī script, however, earlier they also used a Kaithi script (Wikipedia 2017).

Studies have established that language barrier is directly and adversely proportional to the coverage, scope, and access of the public health care (Sharma, 2016)**.** Universal health coverage (UHC) has been set as a possible umbrella goal for health in the post-2015 development agenda because universal health coverage not only leads to better health and to financial protection for households, but that it is valuable for its own sake. Universal health coverage is the goal that all people obtain the health services they need without risking financial hardship from unaffordable out-of-pocket payments. It involves coverage with good health services from health promotion to prevention, treatment, rehabilitation and palliation as well as coverage with a form of financial risk protection. Universal health coverage is attained when people actually obtain the health services they need and benefit from financial risk protection. Public health access, on the other hand, is the opportunity or ability to do both of these things. Hence, universal health coverage is not possible without universal access. However, the access has three dimensions physical, financial, and acceptability (David B Evans 2015). The universal health coverage and universal access to health services are complementary ideas that could be hindered severely due to language barrier. Language barrier affects more the accessibility aspect and without universal access, universal health coverage becomes an unreachable goal.

Literature review has revealed that language barrier in health sector starts with education being conducted in other than native language or the language not received during the childhood. Perhaps there is no other state in India which has as much lingual diversity like Bihar. In Bihar other than Hindi and English there are three major languages namely *Bhojpuri, Maithili*, and *Magahi.* In addition, there are two minor languages known as *Angika* and *Vajjika*. The education system usually follows either Hindi or English as a medium of instruction and therefore speakers of other five languages in Bihar usually suffer from a great degree of language barrier from the start if life. So much so that speaker of one particular language have difficulties in understanding the conversations in other local languages in Bihar.

The case of health is entirely different because almost entire medical education, research, publication, health information management systems, drugs, medical prescriptions, and technology are provided in English language. Therefore, the reasons of language barrier is could be well established beyond any reasonable doubts.

The language barrier usually affects both the public health practitioners and patients however, somehow a mechanism existed in the private health sector which is absent in public health sector of Bihar. To minimise the language barrier still there is no use of translator or interpreter in any of the public health centre. Even practitioners suffers from a lack of communication while getting education, training, or extending peripheral public health services.

It is a clear fact that language barrier do play a role in medical education, research, technology, drugs, and other logistics however, that has not been properly studied, documented, or reported in Bihar. People do have rights to get universal health coverage and access which would not be a reality without addressing the

major problem of the language barrier in health care. The proposed would be a small effort in this direction.

Statement of problem

The language barrier in Bihar in the health sector is somehow a special case in India. Unlike many states of India who are preponderantly unilingual, Bihar is majorly multilingual. The special case of Bihar does resemble with the Uttar Pradesh. So there should be special provisions in these states.

The nomenclature of diseases is different in different languages and there are no uniformity in Bihar. Patients and practitioners have difficulties in communicating mutually. Patients cannot read the medical prescription and do know a little about the drugs and medicines prescribed. Even they have difficulties in understanding the procedures and protocols of treatment they would get. Many times they feel cheated and get their life put in dangers.

The medical outreach service gets seriously affected by the language barrier. People could not have access to the public health information system because of the language barrier. Everything cannot be left over to the medical ethics which has been compromised every now and then and have become deficient due to lust for money and other personal gains. There is a lack of informed participation in case of drugs and medicine trials. Due to lack of health literacy people are subjected to uniformed consequences.

Every citizen of India has rights to get information about the public health system in their own language. However, the issue is not so easy. It would take a long to impart education entirely in Hindi or any other local languages. Most of so called Hindi speaking states have several major local languages. For examples in Bihar, Magahi, Bhojpuri, and Maithili are spoken by more than 30 million people each. This is a major population fully deserved an education, health, welfare, and justice systems functioning in those languages.

What is the basis for a government not recognizing the importance of local languages and not providing an official status in governance? Contrary to this we can see that in Europe even those languages which are not having such a large number of speakers do efficiently run their affairs in their own languages. Language barrier plays a role in medical education, public health management, research, health information management system, and medical technology. It is also directly related to access, cost of health care and patient satisfaction.

The vulnerabilities in the Indian public health sector have been so far generally identified as lack of workforce, logistics, and infrastructure. In addition, medical education, research, and technology are also identified as another deficient area. However, the manner language barrier affects public health care, its quality, access, proximity, and regularity has not been adequately reported and acknowledged. There are tendencies to either ignore it or take it lightly. However, every person should have a right to avail public health care in their own language. Whereas every process is it medical education, patient's registration, supply of technology and logistics, prescription and marketing of drugs are provided in English language. Unfortunately, they are not provided in local languages or even in Hindi even after 70 years of freedom.

The language aspect of health care has been neglected so far in India because all medical education and research are not done in Hindi or any other local vernacular or language. In India there has been rapid internal migration due to trade, employment, education, and tourism. Even internationally, many tourists come to India and there has been a boom in the medical tourism. We cannot ensure them quality health care without considering the language factors. Even in telemedicine and artificial intelligence language consideration becomes important.

Literature survey and review

We reviewed a large and varied national and international literature. The literature related to the impact of language barriers on health and provision of health services is diverse, spanning many different fields. In reviewing the literature, it is important to be aware of the relationships between many diverse concepts, and to critically analyze the strengths and limitations of the available evidence.

In a study, *Cameran A. Vranceanu* and *Irina Leca* have found that language or communication barriers most often also relates to cultural barriers (Leca 2015). In his study, *Keith McDonald* has found that the issue of language barriers in the context of employer engagement is a key factor (Sowden 2010). *Sharon M. Lee* had studied the impact of communication barriers between patient and physician on the quality and costs of health care. He concluded that effective communication between physician and patient is critical to good health care. When doctors and patients speak different languages, achieving effective communication becomes vastly more challenging (Lee 2003). *Francesco Giovannoni* and *Siyang Xiong* in their study have found that at an intuitive level, "language barriers" bring obstacles to communication (Xiong 2017). In a study, *R. Delecta Jenifer* and *Dr. G. P. Raman* has found that organizations should focus on establishing a new universally accepted enterprise culture in which one understands the other person's values and beliefs and respects it. Cultural competence involves a lot of learning about the cross cultures which will overcome the cross cultural barriers (Raman 2015). The study of *Raymond Eckhardt, Sarah Mott,* and *Sharon Andrew* raised issues relating to the provision of individualized health, emergency and in-hospital care for people who do not speak English. They urged that patients need and want people who can communicate clearly and compassionately (Raymond Eckhardt 2006). *Bernard Lopez* examined the language barrier through a number of different lenses, introducing eight reasons why it is vital to prioritize solutions to this issue (Lopez 2017). A report by *Sarah Bowen* concluded that addressing language barriers is essential for quality and safety in healthcare (Bowen

2015). A study on the multitude of languages and comprehension of material provided to refugees and migrants in Greece demonstrates that refugees and migrants in Greece do not always receive information in a language or format they can understand. This phenomenon creates serious language and communication barriers, which can generate feelings of insecurity and have detrimental effects on people's lives (Ghandour-Demiri 2017). *Sebastian Otten* in a study on the effect of language and cultural barriers on different types of international factor movements, i.e., International trade flows, cross-holdings of assets, and consolidated international banking claims; found that the relationship between language and cultural differences and factor movements is under investigated in the economic literature (Otten 2013). Language Barriers and Miscommunication as a Cause of Maritime Accidents (Makeonia 2014).

Norman Segalowitz and *Eva Kehayia* had found in their study that there was a growing interest in language barriers in health care (LBHC). They proposed a research agenda aimed at attracting general language researchers to the study of LBHC, an agenda that is theory driven, programmatic, problem-solving oriented, and interdisciplinary in scope (Kehayia 2011). *N.M. Kronfol* had studied some of the main obstacles encountered by the population (or rather by different social groups) in accessing health services in Arab countries. These obstacles can be social and cultural, administrative and organizational or financial and may impact on gender and ethnic groups to different degrees. It was urged that the Governments are required to address the health inequalities that result of these obstacles and promote equity, solidarity and fairness through social policies that enhance social and national development (Kronfol 2012). In a study in Korea by *Arnelyn Manaluz-Torres*, it was found that as the patient populations in South Korea become increasingly diverse, health care professionals have to look for innovative ways to communicate effectively across cultures, languages, and health literacy levels (Manaluz-Torres 2015).

Kidist Birmeta ET. Al had studied the language barrier in health sector in Ethiopia. They found that the major barrier to accessing the health care service includes income, marital status, ethnicity, evaluated health and individual attitude towards health services. Most of the respondents reported that their self-perceived health rate is excellent. Respondent also worries that the health care providers may provide unnecessary care to make money (Kidist Birmeta 2015).

Franca Felix had studied the barriers to access to health care services by immigrant population in Scandinavia. Six thematic categories of barriers to accessing health care services were identified that may impede access to healthcare by immigrants with legal residence in Scandinavia. Although 78% of the studies indicated that communication that language barriers hindered access to health care, and interpreters were often unable bridged the communication gaps, cultural barriers further complicated interactions with care providers. In light of the interrelationship between these barriers, it was recommended that cultural competency is incorporated into the practices of healthcare professionals and systems (Felix 2017).

Rebecca J. Schwei and et al, in a policy research for the National Council on Interpreting in Health Care (NCIHC) had found that there was an increase in research on language barriers inside and outside the US because of changes in the national policy. They suggested that researchers worldwide should move away from simply documenting the existence of language barriers and should begin to focus their research on documenting how language concordant care influences patient outcomes, providing evidence for interventions that mitigate language barriers, and evaluating the cost effectiveness of providing language concordant care to patients with language barriers (Rebecca J. Schwei 2016).

By their study *Ereshia Benjamin* and et al, had tried to influence practice and the conditions under which language barriers occurred. They found that the need for more in-depth research into the experiences of community interpreters in health settings, and into key gaps at the level of hospital services, policy and training (Ereshia Benjamin 2016). *Canopy Innovations*, a NYC-based digital health company has prescribed eight critical reasons to address the language barrier in healthcare (Canopy Innovations 2017). *The Colorado Trust* had studied the manner language access issues affect patients, policymakers and health care providers. They suggested the need to address the language barriers in health sector (Baruch 2013). *Emine Kale* and *Bernadette Nirmal Kumar* in their study had found that multi-ethnic societies multiply the challenges for healthcare and these range from varying health behaviors, beliefs and attitudes, diseases, communication, language and cultural barriers, requirements based on religion, lack of information, personal biases, stereotyped views, individual racism to institutional (health system) bias and enforcement of laws requiring equal opportunities in employment and other walks of public life (Kumar 2018). *Anne-Marie Ouimet* and et al, had concluded that the presence of linguistic barriers in available services can have major negative repercussions on the health of patients (Anne-Marie Ouimet 2013). *Rosse, F. van* and et al, had found that patient safety risk involved in patients with inadequate language proficiency in specific daily hospital care situations like fluid balance management and pain control. They showed that the use of professional interpreters is not always feasible when trying to overcome patient safety risks related to language barriers. Additionally, they established that language barriers are often not adequately reported and bridged in Dutch hospital care (Rosse 2015). *Emine Kale* and *Hammad Raza Syed* in their study had found that the use of interpreter services seems to be sporadic and dependent on the individual health care practitioner's own initiative and knowledge. Many survey participants expressed dissatisfaction with both their own methods of working with interpreters and with the

interpreter's qualifications (Syed 2010). As part of a wider investigation of cross-cultural communication practices in health care and social service institutions of Vienna, a survey among hospital staff was conducted by *Franz Pochhacker* to establish the need for mediated communication between service providers and non-German-speaking patients. It was found that most of the respondents were well aware of the shortcomings of adhoc interpreting arrangements and voiced a clear preference and demand for a hospital interpreting service to improve communication with and health care provision to non-German speaking patients (Pochhacker 2000). Glenn Flores in his study in the United States had found that Language barriers can have deleterious effects (Flores 2006). Donald *A. Barr* and *Stanley F. Wanat* had found their study on ethnic minorities that the ethnic minority patients most perceived that cultural impediments to access involved no physician staff. Closer collaborations between health care organizations and ethnic minority communities in the recruitment and training of staff may be needed to improve cultural and linguistic access to care (Wanat 2005). A final report by *Sarah Bowen* indicated that there are likely a number of potential contributing factors to the findings of equal or lower mortality rates among patients who have language barriers. Barriers presented by unaddressed language barriers within the health system are many and varied. Strategies must be developed to promote appropriate action on this research synthesized with community experience within a Canadian context (Bowen, 2015). *Elizabeth Jacobs* and et.al, concluded in their research that, we need more and better-quality research on the impact of language barriers to health care and how interventions to improve linguistic access affect the cost and quality of health care delivered to persons with limited English proficiency. The importance of future research on this topic cannot be underestimated (Elizabeth Jacobs 2006).

Lalit Narayan in his study concluded that over the past few years there has been increased discourse regarding achieving universal access to healthcare in India and the rest of the world. However, universal access implies that people not only have access to technology and human resources, but also to explanations that allow them to give meaning to their health conditions and their causes. There is a need for more research and advocacy, knowledge translation and exchange and an exploration of new technologies to develop solutions that are appropriate to the local context (Narayan 2013). In a study it has been found that the language barrier has emerged as a major challenge for the *Make in India* program (Raghunathan 2018). Hundreds of languages are spoken in India on daily to daily basis, however, almost 20 out of them can be recognized as a major language has been the major contributor to the language barrier in India (The Indian Express 2018). The language barrier has been identified as a major problem for the rural development in Northern India (Gumperz 1957). It seems evident that in the case of India and elsewhere, multiple languages ought to be taught and be taught well to allow individuals not only to operate in a globalized world, but to also bring together local communities that have been fractured and segregated by the economics of language. It is perhaps the right time to revisit the age old strategies, optimize them, substituting them with unique and global contemporary standards. There are a couple of aspects that need to be crucially considered while trying to introduce radical changes in the Medical Education system (Bammidi 2013). The cross-cultural exchanges between the people of India and their colonial rulers provides a fascinating insight into how these encounters shaped medicine and medical education in India. Even after independence, we have still been unable to convincingly shrug off the colonial yoke. India needs to work out a national medical curriculum which caters to our country's needs. A symbiotic relationship needs to be developed between the indigenous and allopathic systems of medicine (Supe 2016). Since English is the language of global importance, medical teachers should work together to find out a practical approach in addressing some of the problem areas faced by few medical students to help them perform better as an Indian medical graduate (Deshmukh 2017).

There is evidently a lack of study and literature related to language or communication barrier to health care in India. There were some studies related to medical tourism and tele medicine. There was a study on how artificial intelligence can improve quality health care.

Most of researches reviewed as above indicated the vital role of good communication in health care and so is its complex and difficult. Gathering a comprehensive medical history is by no means a simple task for a doctor. It is equally demanding for the patient to convey their ailments and medical history and to understand the suggested treatment. Medical jargon is difficult to understand, and a doctor's status and busy schedule do not encourage people to ask for further explanations. The potential for misunderstanding increases considerably if doctors and patients do not speak the same language.

It is evident from all those national and international literatures that language barrier existed prominently in multi ethnic societies especially where many languages existed. Studies also revealed that language barrier is enhanced due to migration. So far literature review suggested that language barrier in the health sector has been studied under different settings. There are studies conducted among religious, social, cultural, and ethnic minorities. Studies have been also conducted on migratory population. The studies have been conducted across the globe in Asia, Africa, Europe, in the US, Canada, and Australia. There were several studies which have been restricted to a particular disease or among particular community. There were several policies and program driven studies on the language barriers. Some studies have analyzed the role and utilities of the translators or interpreters. Some studies have explored the roles and utilities of the artificial intelligence and technology in addressing the language barrier.

The survey and review of several relevant literature have found that there is almost lack of any relevant literature on language barriers in Bihar. In addition, if could be also established that language barriers cannot be ignored for long otherwise there may certain adverse manifestations, including a fall of order and control in the society leading to disorganization. Literatures were also related to the effects and manifestations of language barriers on age, gender, income across the sectors of education, health, justice, business, and travel. Even there are literatures on the methods and strategies of overcoming language barriers in different sectors.

The case of Bihar does resemble with those settings because of the existence of many languages, rapid migration, and tourism. However, the main reason of language barrier has been identified as English being the main language of the medical systems practiced in India. Health literacy in Bihar has been identified as one of the lowest in India.

A great degree of language barriers or the communication problems in Bihar persisted amidst presence of several native languages that has not been so far properly studied and communicated. There is no idea about the extent, type, causes, and consequences of the language barrier existing in the public health sector in India. There may be problems of every layer of the public health system such as education, research, technology, and access to public health services. Language barriers are a reality at every public health organization and institution which has not been properly studied, reported, or documented.

In the contemporary era public health institutions are required to deal with the language barriers professionally as never before. The language barriers in Bihar cannot be seen in isolation with other social sectors. A social system would not function and deliver properly as language barriers continued without addressable for long. The growing diversity has posed urgently necessary to tackle the language barriers in a most professional manner (Chieh Li 2017). Due to multiple language students often subjected to a higher degree of language problems at various levels of health care. It needed to address the communication barriers at the every level of healthcare (Ivey 2011). Even there is a great degree of language barriers in the world of computers and information technology, however, computers can be a great tool in overcoming the language barriers (Hausser 2003). Still in Bihar and many other parts of the country have some great problems in getting justice due to language problems in courts (Jacobson 2007). If various language barriers are no addressed properly for long it may have the potential for successive movements and overall social disorganization (Lynch 2010). Language proves to be a barrier at different levels, such as semantic (meaning), syntactic (grammar), phonological (pronunciation, intonation, pitch, etc.) and finally linguistic (across languages). Thus, language barriers can arise in different ways, including Jargon or unfamiliar terminology, differences in languages, extensional- intentional words, the same words used in different contexts. *Fred C. Lunenburg* has divided into four categories: process barriers, physical barriers, semantic barriers, and psychosocial barriers (Lunenburg 2010). Communication barriers can be also divided into age, gender, and income, or geography, or weather categories.

Language barriers are a common challenge that occurs not only in international interactions, however, domestic interactions are also affected to a great extent. Native speakers often don't realize is that most of the time the other person’s accent doesn’t, however, their own way of speaking creates the greatest barriers to effective communication (Berardo 2011).

The whole of Bihar, especially the state capital Patna has been face to face with major problems of communication due to varied languages that has not been properly studied and documented academically. When native speaker of a particular language tries to interact with native speaker of other languages face difficulties in understanding and communicating properly because many terms they are not used to. Children and women residing in rural areas when make visits to any urban areas most of the time face language barrier in one way or another. Educated people can communicate in Hindi or English, however, they do not constitute the majority.

Language itself is a tool of communication, however, still it required to be communicated through all communication channels including print and electronic mediums. Computer or Information Technology aided communication would be necessary for all Indian languages as they are being rapidly replaced by English. This problem is with all Indian languages, however, it is more so with certain minor languages. The communication problems of minor languages have two dimensions firstly with Hindi and secondly with English. However, even Hindi is also losing the battle in the computer aided medium of communications.

Communication generally remains possible; it may be severely impaired even with common knowledge that language competence is adequate; and, indeterminacy of meaning, the confounding of payoff-relevant information with information about language competence, is optimal (Board 2013). There are many linguistic barriers that first needed to get recognized and avert in dealing with people in crisis, both in talking and listening. Barriers due to improper communication can be easily erected and difficult to remove (Stagg 1991). A communication problem may soon become a crisis or it may linger on for years (Erven 2001).

Based upon the literature survey, it can be said that though there were numerous literature on language barriers in the health sector in the global contexts, however, there were very few which can be justified with the proposed study. Therefore, it is important that administrators at healthcare services and healthcare policy makers are made aware of their responsibility to secure the knowledge base and procedures necessary to fulfil the intention of the laws.

Objectives

The main goal of this project was to collect information about the role of language barriers in the public health system of Bihar especially related to public health coverage and access. Moreover, various related aspects of the public health system were studied, including medical education, research, technology, logistics, and public health information management system.

The project had two main objectives. Firstly, the research objectives and secondly, there was capacity building objectives. The research objectives included the integration of all existing knowledge, literature, and information as well as producing all new information, literature, and knowledge. Towards the capacity building objective the project worked as a booster for the project team and the institutions in carrying out and management of a research project. Their capacity enhanced by this project. Project staff was trained in data collection, reporting and communication a research.

Our literature review reaffirmed the fact that quality communications and mutual understanding are essential components in the provision of health care and social services. Given the importance of adapting services to take the mother tongue of patients into account, this study would certainly come out with recent and innovative data.

Unlike many other research this research categorized and classified the types of language barriers in the public health sector of Bihar. Such classification was done on the basis of diseases, rural, urban, gender, age, and location. Different aspects of public health care, including medical education, research, publication, health information management system, patient's registration, supply of medicines and logistics were studied. In addition, the existing mechanism to address the language barriers was properly inquired.

The study took into account the various adverse events arising out due to language related communication barrier. The study collected data on the language needs of the patients and communities that in turn may provide a solution to address the community needs. This study investigated the critical evidence related to impacts of language barriers to quality and safety of care in the health care setting. So far studies conducted had not indicated the manner the language barriers affect almost every aspect of health. This research highlighted the impacts of language barriers to participation in health promotion and prevention activities; delayed presentation for care; barriers to initial access for most health services; increased risks of misdiagnosis; poorer patient understanding of and adherence to prescribed treatment; lower patient satisfaction;, increased risk of experiencing adverse events; poorer management of chronic disease; and less effective pain management. It would highlight the manner language barriers also commonly result in failure to obtain informed consent and to protect the client (patient) confidentiality.

Methodology

The study truly followed the tradition, culture, and practices of an academic study. Given the exploratory nature of this study, grounded theory was adopted as the methodological framework for data collection and analysis. Qualitative interviews and case were used as the main source of data. The face-to-face, semi structured interviews were conducted. An interview protocol was properly followed to get insights about their personal experience about any major language barriers they would have come across. Case studies of various public health organizations and institutions were conducted to investigate the manner public health practitioners and patients mutually interacted.

The literature review revealed that different methods were adopted by different scholars, depending upon the kind and range of studies. Methods depended upon locations. However, in general qualitative methods, including case studies, literature reviews, and interviews were the methods adopted in this study. The study used an in-depth semi-structured participant interviews. A phenomenological interview used to understand the shared meanings of the participants' lived experience, from a cultural perspective. The conversations between the public health, practitioners, patients, and or attendants were recorded to find out the major areas of the barrier.

The public health practitioners, patients, and the patient's family were interviewed about the problems. The field work conducted at major urban centers and in areas marked with Bhojpuri, Magahi, and Maithili prominence.

The practitioners willing to participate in the research were administered an information sheet and consent form, as well as a Language Background Questionnaire (LBQ), in advance. Patients who were either language concordant or discrepancies were identified in a number of ways. All information, consent and questionnaire forms were available in a choice of English, Hindi, Bhojpuri, Magahi, and Maithili. It allowed respondents selecting their preferred language. In addition, patients were asked to complete a short questionnaire to rate the perceived effectiveness of communication with the practitioner after their appointment ended.

Exclusion and inclusion criteria

Patients and practitioners who speak more than two languages were included in the study, as those individuals either patients or practitioners, who identified Hindi as their dominant language, but who acquired Bhojpuri, Magahi, and Maithili in childhood and speak it at home. Patients who identified as having requested the assistance of an interpreter were recorded, provided that they consented to take part in the study.

Data analysis

There were at least three theoretical approaches to understanding why communication problems arise in language-discrepant medical communication settings. One was a *psycholinguistic approach* discussed by *Segalowitz* and *Kehayia*. It focused on the way in which speakers

direct the other person's focus of attention to key elements of their message by using semantic and syntactic features of the language to package the message appropriately, and on the listener's ability to infer the speaker's intention.

A second theoretical approach considers the conversational dynamics of patient-doctor interactions. The focus here was the power relation differences between doctor and patient, and how language uses both reflect these relationships and serves as a tool for manipulating them. Little was known regarding the social dynamics that operate in language-discrepant health care contexts. Here I applied a third theoretical approach, namely the framework of *Communication Accommodation Theory* (CAT). This approach has a particular relevance for comparing language-discrepant and language congruent communication. In theoretical terms, CAT proposes that 1) Speakers attempt to converge (or not) their manner of speaking, to accomplish important social goals around attaining social approval, identity etc.; 2) The extent to which speakers converge reflects in part the need for communication efficient; 3) Convergence is viewed as positive and normative; and 4) Divergence in a manner of speaking reflects a specific intention to do so, and are normally perceived negatively.

CAT thus provides a useful framework for examining the dynamics of patient-practitioner communication, especially when at least one of the speakers uses a second language. In such cases, an inability to achieve convergence can affect how the speakers perceive not only each other, but also the quality of the working relationship between them. The relevant research goal here is to identify what specific impact language discrepancy has an accommodation, and what the consequences are for patient-practitioner communication.

In summary, the study was able to produce a corpus of authentic patient-practitioner communication that will be explored systematically, using a combination of qualitative and quantitative analyses. This allowed me to establish the linguistic elements of the interactions that may contribute to a language barrier, as well as communication-based factors that hinder or facilitate language discordant conversations.

Findings and discussion

Bihar is a multilingual society because of three major local languages Bhojpuri, Magahi, and Maithili have more than 3 million speakers each. It was a misrepresentation that Hindi is the native language of Bihar. Several social systems, including health, education, and governance functioned mainly in Hindi or English, in turn, contributed to the language barrier in different sectors. However, the same has not been properly studied, documented, and reported. The majority of people, especially residing in rural areas have difficulties in interacting in Hindi or English. Even people speaking one particular local language have difficulties in other local languages.

Language barrier can seriously affect the quality of the public health care and it can put patient's life to dangers. Communication barriers due to language are an important ingredient in accessing the quality and cost of the health care. Policy makers in India needed to realize the importance of providing health education, research, technology, and supply of logistics in local languages. Otherwise, the whole goal of a qualitative, proximate, regular, and cost effective public health system would be a distant dream.

The study becomes significant considering the phenomenal high movement of people due to education, employment, trade, and tourism. The literature survey has established a lack of research in India whereas there are numerous literature at the international levels.

Still, there is no any policy in India to deal with the language barrier in the public health sector. This is most probably has been the main reason that there is not any major policy being implemented at any public health institutions in India. So far, all public health policies in India have been a subject to the national language policy that deals with a three language policy. However, the language barrier cannot be dealt with a trilingual national policy.

In India, there has not been any policy decisions at the center or state levels with respect to language barriers. Public health organizations would certainly want to develop a long-term plan for continuing to provide high-quality language services. Despite the many difficulties healthcare organizations face in meeting the linguistic needs of their patients, a number of organizations demonstrate that major improvements in language access are possible. Ultimately, providing high-quality language access can help to increase organizational efficiency, lower liability and improve health.

The implication of this study would be for all of India despite being conducted in the province of Bihar. One of the implications of this study would be that the existing practices can have negative consequences for equal access to health care services for patients with limited majority language proficiency and inadequate health literacy. The Patient Rights Law in India places the responsibility of healthcare workers and healthcare institutions to guarantee the patient's right to information and input by providing optimal communication with patients.

The health care providers, who usually have no training in how to evaluate patients' language abilities, seem often to be left alone to make the decisions. It needed to specifically indicate that health care providers and patients might evaluate quite differently whether or not a language barrier exists.

The study would enable the policy makers and highlight better routines and procedures in the workplace for the effective organization of work with interpreters and a higher awareness and competence at the institutional level about which measures should be taken in order to adapt healthcare services for patients with limited majority language proficiency and inadequate health literacy are recommended.

The research would have major significance for the policy makers. They would first come to realize the problems related to language barriers. They may think to overhaul the entire medical education system in local languages. They may make policies to address language barriers at the public health centers and hospitals. The same can be replicated in cases of telemedicine and artificial intelligence. The entire range of medicine, logistics may be supplied in local languages so that they can be easily sensed by the public health practitioners and patients. Medical prescription may be ensured to be written in local languages. Even technology may be developed in compliance with the local lingual needs.

There are several areas of utilities and relevance of this study of the society. Such studies are relevant because of firstly, the ways in which language barriers affect health and health care. Secondly, the studies are required for emphasizing the need of ensuring the implementation of linguistic access service interventions in the healthcare. Finally, this study would highlight the cost of language barriers and efforts to overcome them. Clearly, we need more and better-quality research on the impact of language barriers to health care and how interventions to improve linguistic access affect the cost and quality of health care delivered to persons with limited English proficiency. The study would enable to focus the spotlight on patient safety and quality of care, these principles will guide its approach to removing communication barriers related to language, cultural differences, and low health literacy, as well as communication barriers arising from physical factors such as hearing, speech, and vision, and from health care interventions such as intubation. If the goal of providing safe, high-quality care is to be achieved, the obligation of health care professionals and organizations to address linguistic, cultural, and health literacy barriers to patient communication is immediate. Language barriers contributed to the poorer patient assessment, misdiagnosis and/or delayed treatment, incomplete understanding of patient condition and prescribed treatment, and impaired confidence in the services received.

It has been well recognized internationally that hospitals are not as safe as they should be. In order to redress this situation, health care services around the world have turned their attention to strategically implement robust patient safety and quality care programs to identify circumstances that put patients at risk of harm and then acting to prevent or control those risks. Despite the progress that has been made in improving hospital safety in recent years, there is emerging evidence that patients of minority cultures and language backgrounds are disproportionately at risk of experiencing preventable adverse events while in hospital compared with mainstream patient groups. One reason for this is that patient safety programs have tended to underestimate and understate the critical relationship that exists between culture, language, and the safety and quality of care of patients from minority racial, ethno-cultural, and language backgrounds.

The failure to recognize the critical link between culture and language (of both the providers and recipients of health care) and patient safety stands as a ‘resident pathogen’ within the health care system that, if not addressed, unacceptably exposes patients from minority ethno-cultural and language backgrounds to preventable adverse events in hospital contexts.

In order to ensure that patient interests in receiving safe and quality care are properly protected, the culture–language–patient-safety link needs to be formally recognized and the vulnerabilities of patients explicitly identified and actively addressed in patient safety systems and processes.

Studies have revealed that individuals who do not speak English at home are less likely to receive quality health care for many critical illnesses and in this manner they contribute to the miseries. The language barriers play a role in health care disparities, and that provider should promote the importance of lingual screening to non-English speaking patients.

There are literature and information about other project areas, however, there is no any such information was available about Bihar. Although, all those studies, information, and literature would guide us, however, still this study would be a novelty. The preliminary inquiry conducted by the research scholar would serve as a baseline. The research scholar had worked in the field of public health and linguistics and have relevant information and experience. In addition, he worked as key informant and verifying sources for various information collected under the project.

The research on language access would be broad and multi-faceted. It was, therefore, useful to note that this study never attempted to review all impacts of language barriers related to health care (e.g. impacts on service utilization, health care cost, or research participation). Nor will this study would address other related topics such as a) evidence on effective strategies to address language barriers, b) legal issues related to the provision of language access, or c) standards or recommended best practice for service provision. The findings included a background including a short overview of issues related to evaluating the evidence on language barriers, patient safety and quality of care. It also provided the evidence related to impact of language barriers on health care quality, with an emphasis on safety. Additionally, the findings included a commentary on the implications.

The study provided a critical review of the literature as it relates to the impact of language barriers on patient safety within the context of quality of care. It was not intended to be an exhaustive review; rather the aim is to summarize the current evidence and provide a framework for further investigation.

Conclusión

Language barrier affecting the Access, Coverage, and Quality of the Public Health Services in Bihar was a reality. The language barrier in Bihar has been contributed because of two main reasons, Firstly the presence of five prominent local languages Magahi, Bhojpuri, Maithili, Angika, and Vajjika. Secondly, the whole of the public health system, including education, research, publication, logistics, and medicines were in English and it was not in either of Hindi or any of those five languages. There were no any services of translators at any public health centre that prevent suitable communications between patients, attendants, and service providers. There were difficulties in understanding the medicines and treatment suggested. The scope of adverse effects had been always there because of lack of proper communication.

Collecting demographic information on patients who seek services as well as looking at the characteristics of the population as a whole would help hospitals design services that promote population health. Language data play an important role in this process. In addition to asking patients about language preference, hospitals should include languages spoken in the area on community needs assessments and strategic planning efforts. A language services provider can assist with setting hospitals up to track their utilization of interpreter services by language, measuring demand.

Public hospitals can reach out to the communities. Each hospital and community is different, so each must design and develop language services for their own unique situation. The increasing number of languages spoken in both urban and rural areas calls for a multipronged solution.

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