

Correlation between Interpersonal Communication and Sickle Cell and Rhesus factor Incompatibility Awareness among Residents of Yenagoa, Bayelsa State, Nigeria

Christopher Ifeakachukwu Ochonogor,
Department of Linguistics and communication Studies
University of Port Harcourt
christopher.ochonogor@uniportedu.ng;

Okporo Tochi Patience
Department of Linguistics and communication Studies
University of Port Harcourt
patienceokporo@gmail.com

Cynthia Konye Ikem
Department of Linguistics and communication Studies
University of Port Harcourt

Abstract

Sickle cell disease and Rhesus factor are two medical conditions that have wrecked serious havoc in many homes and denied some couples the desired conjugal joy. Sickle cell disease and rhesus factor incompatibility are genetically transmitted disorders that affect blood properties. These conditions have resulted in couples having only one child, childlessness, and increase in child mortality rate or the birth of sickly children in affected homes. The above have engendered mutual suspicion and acrimony between couples. This study investigates how interpersonal communication can be employed in creating awareness about sickle cell disease and Rhesus factor incompatibility, especially among intending couples in Yenagoa, Bayelsa State. Anchored on the health belief model and the social learning theories, the investigation employed the survey research design to generate responses from a sample of 383 respondents drawn from 8 communities, using the multi-stage sampling technique, using a set of questionnaire. Frequency distribution and simple percentage tables were to present the data for analysis. The findings of this study reveal that Yenagoa residents are aware of sickle cell disease and Rhesus factor incompatibility and that interpersonal communication was very effective in creating awareness and influencing residents, especially intending couples to test for their genotype and rhesus status. The study recommended among others that the federal and state ministries of health in conjunction with the ministry of information should mount a vigorous enlightenment campaign to provide the people with adequate information on sickle cell disease and Rhesus factor incompatibility.

Key words: Sickle cell disease, Rhesus factor, compatibility, interpersonal communication, awareness

DOI: 10.7176/JLLL/78-09

Publication date: April 30th 2021

Background to the study

The prevalence of sickle cell disease and Rhesus factor incompatibility in many families in Nigeria has become a major concern and subject of research in the medical and communication fields. These health conditions have caused agonizing experiences and untold hardship among families with sufferers of the conditions. Whereas, the sickle cell disease has resulted in the increase in mortality rate among children the rhesus factor incompatibility has been responsible for spontaneous abortions after the first pregnancy in many homes, thus leaving some couples with only one child or in some cases childless (Ohaeri and Shokunbi 2001). The increasing rate of children born with sickle cell disease condition and the couples experiencing spontaneous abortions due to rhesus factor incompatibility have been attributed to lack of awareness which resulted in the marriage between people who are of the same genotype and those who are rhesus factor incompatibility (Alabrah 2018).

In many African societies and cultures till date, women do not have much say about whom to marry. Many of such marriages have been contracted between people who do not have matching genotypes or whose rhesus factors are compatible. The consequences of such unions are that those, especially women who are unfortunate to find themselves having spontaneous abortions due to rhesus factor incompatibility or experiencing child deaths are considered witches by some societies while some would blame in-laws for their predicaments. In many Nigerian societies, the misfortune of having children who die at infancy is usually explained with the *ogbanje* or *abiku* spirit myth (reincarnation in which spirit of the dead child goes through a cycle of dying and coming back to the same family). Due to these conditions, many marriages have been broken and many families have gone and are going through agonizing situations because of childlessness.

Rhesus factor is an antigen that exists on the surface of the red blood cells in most people (about 85% of humans). It is also referred to as Rh factor and people who have the Rh “positive” (+) blood types such as A+, O+ or B+ are said to be rhesus factor positive, while those who have the Rh “negative”(-) blood types such as A-, O- or AB – are said to be rhesus factor negative. The + and - in front of the blood group is the rhesus factor. Generally, there exists A+, A-, B+, B-, AB+, AB-, O+, and O-. Rhesus factor is genetic in nature it is inherited from the father. If a rhesus negative (Rh-) woman is impregnated by a man with Rh-, there would not be any problem; however, if an Rh- woman is impregnated by a man with Rh+, there would be a problem if the baby inherits Rh+ from the father. This is referred medically to as Rhesus factor incompatibility and the baby would obviously be Rh+. During childbirth once the baby’s Rh+ comes in contact with the mother’s Rh-, the antibodies are immediately activated by the woman’s body immune system.

The activated antibodies would see the new Rh+ as a foreign body or a threat and consequently attack and expel the foreign body and as such, the woman would keep having spontaneous abortion after having the first child because the activated antibodies would see the subsequent Rh+ pregnancies as foreign bodies and would keep taking them off. Women with Rh activated antibodies are said to be Rh sensitized and once these antibodies are activated, they can never be deactivated until the woman dies. Rh induced antibodies are activated in an Rh- woman at childbirth, abortion, miscarriage and ectopic pregnancy. If an Rh- woman commits abortion from a Rh+ man and the antibodies are activated in her system, the woman might end up childless throughout her life except she marries another man with the same Rh-. The possibility of an Rh- woman finding a Rh- man is slim as about 85% of human beings are Rh+.

On the other hand, sickle cell disease is a group of disorders that affects the hemoglobin molecule in red blood cells that delivers oxygen to cells throughout the body. People with this disorder have a typical hemoglobin molecule called hemoglobin S, which distorts the red blood cells into a sickle, or crescent shape. Signs and symptoms of sickle cell disease usually begin in early childhood. The major features of this disorder include a low number of red blood cells (anemia), repeated infections, and periodic episodes of pain. The severity of symptoms varies from person to person. Some people have mild symptoms, while others are frequently hospitalized for more serious complications. Anemia causes shortness of breath, fatigue, and delayed growth and development in children (Wood 2008). The rapid breakdown of red blood cells may also cause yellowing of the eyes and skin, which are signs of jaundice. Painful episodes can occur when sickled red blood cells, which are stiff and inflexible, get stuck in small blood vessels. These episodes deprive tissues and organs of oxygen-rich blood and can lead to organ damage, especially in the lungs, kidneys, spleen, and brain.

A particularly serious complication of sickle cell disease is high blood pressure in the blood vessels that supply the lungs (pulmonary hypertension). Pulmonary hypertension occurs in about one-third of adults with sickle cell disease and can lead to heart failure (Crane and Bennette 2011). The researcher found it interesting to study these two conditions because they are related in the sense that sickle cell disease and rhesus factor incompatibility are genetically transmitted and they both affect blood properties. Again both conditions pertain to reproductive issues and the happiness of couples in marriage. Any couple that does not give birth to live babies as a result of frequent miscarriages or having to give birth to children who fall sick frequently will not be happy.

It is instructive to note that these medical conditions thrive in local communities because of some cultural beliefs attached to them therefore, to change the situation, adequate information is needed to change the belief system of the people who are culture bound and highly suspicious. It has been observed that knowledge of the causes of these conditions and the remediation process can reduce the occurrence of these dreadful experiences. Central to the acquisition of knowledge for overcoming those challenges is information (Alabrah 2018). The purpose of communication is to share meaning and create understanding among people. Although the mass media have been ascribed with powers to rapidly create awareness because of their wide reach and spontaneous reports, they have limited powers in terms of inducing acceptance of new ideas, especially when those conditions are linked to the people’s belief system. Scholars have observed that the mass media alone cannot bring about attitude change but function among a nexus of mediating variables to induce change for the acceptance of a new idea; so that at the point where decisions are taken, the network of interpersonal communication is vital in nudging people to accept innovation (Ochonogor 2007).

Asadu (2009) states that:

For many years health communication has focused on ways to deliver messages about good practices and policies to a variety of audiences, health workers, patients, community members and policy makers health communication today takes a wild variety of forms from the cutting age entertainment, education to participation and dialogue approaches to outbreak communication which just recently to develop approaches that integrate participating and community engagement (p.11-12).

In less complex societies, the surest way of creating awareness would be the use of interpersonal communication through social interaction between members of the societies. Interpersonal communication remains a powerful medium for reaching a good number of people because it makes and strengthens relationship. It is an important tool for the rapid diffusion of important messages or ideas and techniques in such areas as health, nutrition, family planning and other social and cultural issues. This type of communication occurs in different aspect of life, it happen in variety of situations including families, meetings, worship centres, classrooms and health facilities, among others (Omego and Nwachukwu 2013).

Interpersonal communication provides avenues for the development of societal cohesion and solidarity. This is because it involves face-to-face interactions in which someone can be getting a direct impact of the message from the sender as both the sender and receiver are in the same environment. It is, therefore, important to establish the influence of interpersonal communication in awareness creation about sickle cell disease and Rhesus factor incompatibility among residents of Yenagoa in Bayelsa State, Nigeria.

Statement of the problem

Sickle cell disease and Rhesus factor incompatibility have been prevalent in Nigeria for a very long time now. The belief system has made it difficult for most victims to find solution to their problems as these losses are at times seen as punishment from the gods. Because of the ignorance among the that sickle cell disease and rhesus factor incompatibility are preventable conditions through testing, children who die at infancy are believed to be *ogbanje* or *Abiku* while the women who are unfortunate not to get pregnant or experience countless abortions during pregnancy are assumed to be witches. Many accept these conditions as their fate and do nothing about them. Despite the high prevalence of these conditions in Nigeria, there is no standard newborn screening programme or uniform premarital testing for Rh incompatibility and genotype. This sometimes results in children with sickle cell disease being identified during an illness when their genotype test is performed based on clinical suspicion. In most cases, this is also the time when the genotype and blood group of their parents are tested.

Religious bodies, government and Non-Governmental Organisations (NGOs) have mounted campaigns to educate and sensitize the citizenry on how to avoid these conditions. In fact, many churches during pre-marital counseling have made it mandatory for intending couples to go for genotype, blood compatibility, among other medical laboratory tests before commencement of counseling. Even marriage registries insist on blood group and genotype status check before marriages are conducted. State governments in some part of the country (Anambra state precisely) have passed a legislative bill banning marriage among sickle cell carriers or incompatible genotypes. The law imposed a fine of 200,000 Naira or a prison term of up to three years on conviction. Some schools have made it mandatory for the pupils to provide medical report during registration as part of the entry requirement to ascertain their health status before enrollment. (Adewoyin et al 2014)

In spite of the campaigns and interventions to end or reduce the incidents of sickle cell and rhesus factor incompatibility complications, cases of occurrence are on the increase many marriages are conducted in the customary way without recourse to church or registry which insists on testing before marriage. This necessitated the interest to investigate interpersonal communication modes in creating awareness and responses to the sickle cell disease and Rhesus factor incompatibility among residents of Yenagoa, Bayelsa State.

Aim and objectives of the study

The aim of this investigation was to examine the influence of interpersonal communication in awareness creation and response to sickle cell and Rhesus factor incompatibility messages among Yenagoa residents in Bayelsa State, Nigeria. The specific objectives were:

1. To find out the level of awareness of sickle cell disease and Rhesus factor incompatibility among Yenagoa residents'
2. Ascertain the sources of information about sickle cell disease as well as Rhesus factor incompatibility among Yenagoa residents
3. Examine the interpersonal communication modes used by people in disseminating information on sickle cell disease and Rhesus factor incompatibility among Yenagoa residents.
4. To ascertain the response of Yenagoa residents to the interpersonal messages on sickle cell disease and Rhesus factor incompatibility.

Theoretical Foundation

This study is guided by the Health Belief Model which is an example of behaviour change theories. The Health Belief Model, a theoretical model that can be applied to guide health promotion and disease prevention programme, was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels to understand the failure of people to adopt diseases prevention protocols while working in the United States Public

Health Services. The thrust of the HBM centres around four main construct: Perceived seriousness, perceived susceptibility, perceived benefits and perceived barriers. (Guvenc, Akyuz and Yenen, 2013). The focus of the Health Belief Model is to assess health behavior of individuals through the examination of perceptions and attitudes someone may hold towards certain health practices and towards disease and negative outcomes of certain actions.

The theory, useful in health promotion design, intervention and prevention programmes was created in reaction to a failed, free tuberculosis screening programme in the USA. This Model assumes that behaviour change occurs with the existence of three ideas at the same time: An individual recognizes that there is enough reason to make a health concern relevant (perceived susceptibility and severity), that person understands he or she may be vulnerable to a disease or negative health outcome. (Perceived threat) and lastly the individual must realize that behavior change can be beneficial and the benefits of that change will outweigh any costs of doing so even as related to health. Since its introduction, the health belief has continues to be one of the most popular and widely used theories in sanitation and disease prevention campaigns..

Within the context of the Health Belief Model, perceived susceptibility determines the individual's opinions about how likely the behaviors they partake in are going to lead to a negative health outcome. One of the Goals of the Health Belief Model is to change perceptions of susceptibility in order to move towards behaviour change. The model seeks to increase awareness of how serious the outcomes of behaviors can be in order to increase the quality of one's life. In the Health Belief Model, modifying factors step outside the body to examine and use outside influences to affect how threatened a person feels by the outcomes of continuing the same behaviors that put him at risk. Finally, cues to action are reasons why an individual realizes he could be threatened by serious disease. These could be media or concerned loved ones. The goal of the Health Belief Model, is the achievement of greater quality of life for an individual both mentally and physically.

Criticism of many of the behavioral change theories focuses on their emphasis on individual behaviour while excluding the influence of environment, sociocultural factors, economic issues, and policy level mandates. Constraints such as chronic exposure to violence, political upheaval, and poor sanitation are ignored in favor of paying greater attention to individual cognitive processes (Stokols, 2006.).

The relevance of the HBM to this investigation is borne out of the fact that an understanding of the study population that they are susceptible to these conditions which portends severe consequences, will likely make them conclude that the benefits outweighs the barriers associated with changing their behaviours to prevent sickle cell disease and rhesus factor incompatibility through counseling and checking of status and initiations of treatment regimen.

Literature review

The indispensability of communication in all human endeavors can never be over emphasized. Communication maintains and animates life, It is also the motor and expression of social activity and civilization, It leads people from instinct to inspiration through variegated process and system of enquiry, command and control, it creates a common pool of ideas, strengthens the feeling of togetherness through exchange of messages and translate thought into action reflecting every emotion and need from the humble task of human survival to supreme manifestation of creativity or destruction. Communication integrates knowledge, organization and power and runs as a thread linking the earlier memory of man to his noblest aspiration through constant striving for a better life.

In creating awareness, Gamble and Gamble (2002) noted that communication can help us discover who we are, establish meaningful relationship or prompt us to examine and try to exchange either our own attitude and behavior or the attitude and behavior of others.

The unique and irreplaceable role of interpersonal communication in information dissemination and influencing attitudes, beliefs and behaviours is widely studied and strongly recommended in health and behaviour change interventions. This approach to communication identifies information giving and sharing processes, interpersonal sensitivity and partnership building as core communication skills that predict better outcomes.

Interpersonal communication

Interpersonal communication is as old as life itself. It started from the communication history first between Adam and God before they made Eve, even in some stories where evolution of man was traced to apes, it was noted that they had some kind of interpersonal communication though it was non-verbal. Interpersonal Communication is a kind of communication in which people communicate their feeling, ideas, emotions and information in a face-to-face encounter. It can be in verbal or non-verbal form. Interpersonal communication finds expression in not only what is said and received; it incorporates other factors as the use of body language used, and facial expression.

According to Verderber and Verderber (2002), "Interpersonal communication is an informal interaction with others that occurs one-on-one or in a small group" (p.94). An important point to note about the above

contextual definition of interpersonal communication is that it does not take into account the relationship between the interactions, as such, interpersonal communication is described as communication that occurs between people who have known each other for some time. To Dominick (2009), interpersonal communication is a situation in which one person or group is interacting with another person (or group) without the aid of a mechanical device”. (p.8)

In the views of Ndimele and Innocent (2006), “Interpersonal communication is a type of communication in which two or more persons are directly engaged with each other in the overt transmission and reception of messages” (p.87). This definition implies that the participants in the communication process are always aware of each other since it’s a form of personal communication as the name implies. In adding his views to the concept, Hasan (2010), maintains that “Interpersonal communication takes place between individuals since it is person-to-person contact. It includes everyday exchange that maybe formal or informal and can take place anywhere”. (p.8)

In this form of interaction, source and receiver are within each other’s physical presence in which the receiver can see, hear, even smell and touch the source. Also, in this form of communication feedback is immediate and it makes use of visual and auditory channels with minimal noise to prevent effective communication, which Jenings and Malcak (2004) say is not just the ability to talk well or often. To them, effective communication is it also include the ability to

1. Hear what is really being said rather than what may be said on the surface.
2. Read non-verbal behaviours
3. Communicate non-verbally (an appropriately) in return.

Empirical Review

Ozohu-Suleiman (2010) conducted a research to determine the level of campaign acceptance and compare the influences of mass media and interpersonal communication sources in polio eradication in Zaria Local Government Area of Kaduna state, Nigeria. Using the survey design to study 10% sample of the populations of eight out of the thirteen Wards in the local government area, with a response rate of 78.6% the researcher found that contact with friends and relations was rated the most influential interpersonal sources in the acceptance and resistance decision of individuals thus confirming the higher performance of Interpersonal communication sources in influencing campaign acceptance. The study by Ozohu-Suleiman is related to the present one since they focused on interpersonal communication however, the points of divergence are that while his study dealt with polio in Kaduna State, the present one focused on sickle cell and rhesus factor in Bayelsa State.

Dougherty et-al (2020) also carried out a study to evaluates the effectiveness of an intervention that engaged traditional barbers to inform parents about the importance of vaccination and then refer new-borns for vaccination services in Sokoto, Nigeria. Adopting a pre-post quasi-experimental to evaluate changes in the coverage of three birth antigens among children aged 0-5 months in response to the intervention, the results found that mothers who received a yellow referral card from a traditional barber were two to three times more likely to vaccinate their children with the three birth antigens. This finding indicated that interpersonal communication influenced parent's decision to vaccinate their new-born because the barbers were considered a trusted community advisor. This empirical study is relevant to this study because it places emphasis on interpersonal communication as an appropriate medium in spreading information to the masses The difference with the current study lies in the methodological approaches.

Methods, and results

The survey design was applied for the study of residents 29 communities that makeup Yenagoa metropolis, the capital of Bayelsa State. The target population was people aged 18 to 45 years. Using the Philip Meyers sample template to draw 384 respondents using the cluster and multi-stage sampling technique, which divided Yenagoa into eight clusters. From which 48 respondents were drawn using the streets and households to reach the subjects. The study used a set of questionnaire as the instrument for data collection. The results and analysis presented were generated from the 372 copies of the questionnaire that were duly completed and returned.

Data presented shows that majority of the respondents were females and that the majority of the respondents were between 22 years and 35 years age bracket. All the respondents were educated with the majority university degree holders or its polytechnic equivalence, higher National Diploma (HND). Married people also made up a larger part of the respondents. It is also important to note that majority of the respondents were civil servants, and have lived in Yenagoa between six and twelve years.

TABLE 1: Health conditions respondents were aware of

Variable	No of Respondents	Percentage
Sickle cell disease	219	59
Rhesus factor incompatibility	115	31
All of the Above	38	10
Total	372	100

As shown in table one, all respondents knew about the health conditions under study. Even though the majority of the respondents were aware of sickle cell disease, a sizeable number were aware of the Rhesus factor incompatibility conditions.

Table 2 Interpersonal Avenue for respondent's awareness of sickle cell disease and Rhesus factor incompatibility.

VARIABLE	NO OF RESPONDENTS	PERCENTAGE
Consultation at hospital	145	39
Marriage counseling	123	33
Family /friends	37	10
Seminar/ workshop	37	10
Personal reading	30	8
TOTAL	372	100

Data presented above shows that most of the respondents knew about sickle cell disease and Rhesus factor incompatibility for the first time in the hospital during consultation for certain health conditions while many others got to know during marriage counseling sessions which happens to be a major requirement before marriage is conducted by many religious organisations. The data also show that friends and family as well as seminars and personal readings contributed significantly to the people's awareness of the conditions.

Table 3 Respondents Frequency of Hearing Messages On sickle cell and Rhesus Factors incompatibility.

Variable	No of Respondents	Percentage
Infrequently	163	44
Monthly	149	40
Weekly	60	16
TOTAL	372	100

Data presented above shows that the greater number of the respondents did not receive frequent information about the medical conditions under study. Only a handful, 60 respondents got regular information.

Table 4 Circumstances that led to Responses knowledge of their status

VARIABLE	NO OF RESPONDENTS	PERCENTAGE
During counseling as a requirement for marriage.	171	46
Health condition while undergoing medical treatment	145	39
School entry requirement	37	10
Family influence	19	5
TOTAL	372	100

The table above shows that many of the respondents knew about their Rhesus factor and Sickle cell through compulsion as they had to do the testing as a prerequisite for marriage, enrolment in schools or during consultations in hospital.

Table 5: Interpersonal means of education to the respondents

VARIABLE	NO OF RESPONDENTS	PERCENTAGE
Face to face interaction by a health worker	160	43
During counseling	119	32
Phone interaction with family and friends	49	13
Road shows with fliers /branded T.shirt	26	7
Written letter	18	5
TOTAL	372	100

Data presented above reveals that majority of respondents were educated on sickle cell and Rhesus factor incompatibility through face to face interaction with doctors or other health workers, followed by those who got enlightened during counseling. Other means of enlightenment include phone conversations and interaction with family and friends, road shows with fliers/ branded of shirts personal and written letter

Table 6 Interpersonal mediums that most influences respondents' actions

Variable	No of Respondents	Percentage
Sensitization by a doctor or health worker	160	43
Counselors	93	25
Road shows/walk	59	16
Seminar workshops	34	9
Phone call interaction with family and friends	26	7
TOTAL	372	100

As shown in the above table major influencers for people to seek to know their sickle cell and rhesus factor compatibility status were health workers, especially medical doctors followed by marriage counselors. Others were influence by road shows/walk programmes and phone call interactions with friends and family members.

Table 7 respondents' responses to the sickle cell disease and Rhesus factor incompatibility messages

Variable	No of Respondents	Percentage
Carry out test to know status	156	42
Encourage people to know their status	141	38
Seek additional information	75	20
TOTAL	372	100

Information contained in the table above shows that interpersonal interactions has influenced respondents to seek to know their status by carrying out medical test as well as encouraged others to know their status. Interpersonal interaction also influenced some respondents to seek additional information about the conditions.

Discussion of findings

This section discusses the result of the data analysed and the implications therefrom. On the awareness of sickle cell disease and Rhesus factor incompatibility among residents of Yenagoa, the analysis reveals that the respondents were adequately aware of the conditions This finding, of course, is in line with a Gamble and Gamble (2002) submission that in creating awareness, communication can help us discover who we are, establish meaningful relationship or prompt us to examine and try to exchange either our own attitude and behaviour or the attitude and behaviours of others. The implication of this revelation is that people could be aware of these conditions without having knowledge of their Rhesus or sickle cell status.

The findings also shows that people do not carry out voluntary testing to know their health status but have to be compelled to seek knowledge about their status when they go for medical consultation when sick or as prerequisite for admission to school, or pre-marriage counseling requirement. This finding is in agreement with Adewoyin and Obieche (2014) that people do not show willingness to undergo pre-marital genetic counseling and testing except by mandatory requirement.

Information gotten from the respondents also revealed that the major source of information about sickle cell disease and Rhesus factor incompatibility for Yenagoa residents were through interpersonal channels of communication . This highlights the important role of interpersonal communication in information dissemination and corresponds with Ozohu-Suleiman (2010) conclusion in his earlier study that interpersonal communication is an effective campaign tool for polio eradication. This connotes that interpersonal communication in a face to face situation is of utmost importance because during this face to face communication, members of a group are able to influence one another which helps to determine the effect of messages on people.

Responses gathered from table 4.5 reveal that most of the respondents hear information about sickle cell disease and Rhesus factor incompatibility rarely this is because there are is no universal screening programme and no uniform premarital testing for Rh incompatibility and sickle cell disease hence the respondents are reluctant to seek information about these condition. Few respondents hear about these conditions monthly while very few hear about it weekly.

On the ways in which interpersonal communication has influenced the respondents most and findings revealed that one on one sensitization by a doctor or health worker influenced them more followed by those who were influenced during genetic or marriage counseling. A few were influenced by road shows followed by those who got influenced from seminars and lastly from phone call conversations with friends. This is in accord with the views of Ochonogor (2007) who observed that interpersonal communication is vital in nudging people to take decisions and accept innovations. Also, the study by Dougherty et al (2020) agrees that Interpersonal communication has some advantages over other of communication forms, especially when the aim of the communicator is to achieve behavioural change.

It is also instructive to note from the findings of this study that interpersonal communication did influence the people to go for medical tests to know their status and even encouraged others to do so while others sought additional information about the conditions to know the precautionary measures. This of course, is in line with the tenets of the health belief model adopted for this study that the perceived susceptibility determines the individual's opinions about how likely the behaviors they partake in are going to lead to a negative health outcome. The goal of the Health Belief Model is the achievement of greater quality of life for an individual both mentally and physically.

Conclusion and Recommendations

Based on the findings the study, it concludes that:

Yenagoa residents were aware of sickle cell disease and Rhesus factor incompatibility and their awareness was mainly due to interpersonal interactions.

That although the residents are aware of these conditions, they did not know their genotype and Rhesus status because they do not seek voluntary information on these condition except mandatorily as a medical routine, requirement for marriage or admission.

That interpersonal communication through face to face sensitization by medical practitioners and marriage counseling influenced Yenagoa residents positively to know their status through testing and also encouraged other people to know theirs in order avert future tragedies that may arise from these conditions.

It is worth concluding that interpersonal communication remains the most persuasive medium of all forms of communication because face-to-face interaction with people make them feel, belief and react immediately to what they are told.

Recommendations

Based on the findings of this study the following recommendations are made:

1. There should be inter-ministerial collaboration between the Ministries of health and communication in producing educational and informational materials for the promotion of information on sickle cell disease and Rhesus factor
2. Officials of the ministries and agencies of health should partner with local communities to take advantage of their folk media channels to share information towards creating awareness on sickle cell disease and Rhesus factors incompatibility.
3. Government should subsidize the cost of sickle cell and rhesus factor compatibility tests to encourage voluntary testing and reduce the incidences of the conditions.

References

- Adewoyin, A.S & Obieche, J.C (2014). Hypertransfusion therapy in sickle cell disease in Nigeria. *Advances in Hematology*, 923(5938). Retrieved from <https://www.hindawi.com/journals/anemia/2015/791498>
- Asadu, C.A. (2012). *Anatomy of communication for development*. Port Harcourt: University of Port Harcourt Press
- Crane, G.M & Bennett, N.E (2011) *Prevalence of haemoglobins and relationships between sickle cell trait, malaria and survival*. London: Sage Publications.
- Dougherty L, Abdulkarim M, Ahmed A, Cherima Y, Ladan A, Abdu S, Kilgori B, Olayinka F, Garr S, Gilroy KE. (2020) Engaging traditional barbers to identify and refer newborns for routine immunization services in Sokoto, Nigeria: a mixed methods evaluation. *International Journal of Public Health* Dec;65(9):1785-1795. doi: 10.1007/s00038-020-01518-9.

- Gamble, T.& Gamble, M. (2002). *Communication works*. New York: McGraw-Hill Co
- Guvenc, G. Akyuz, A. &Yenen, M. C. (2013). Effectiveness of nursing interventions to increase pap smear test screening. *Journal of Research in Nursing and health* 36 (2), 146-157
- Hasan, S.(2010). *Mass communication, Principle and Concepts*. New Delhi: CBS Publishers & Distributors Pvt Ltd.
- Jenings, J.& Malcak L.(2004). *Communication Basics*. New York: ASTD Press
- Ndimele, O.M. & Innocent, K.M. (2006). *Fundamentals of mass communication*. Port Harcourt: M&J Grand Orbit Communications Ltd.
- Ochonogor, C.I.(2007). The mass media and attitude change: the imperative for national development, In O, Uwakwe (Ed). *Communication and national development*. (2nd ed). Enugu: CECTA Books Nig. Ltd
- Ohaeri, J. U. and Shokunbi, W. A. (2001). Attitudes and beliefs of relatives of patients with sickle cell disease *The East African Medical Journal*, 78 (4): 180- 186. . Retrieved from <https://sacomm.org.za/call-for-papers-african-communication-research/>
- Omego,C.U & Nwachukwu,F.G.(2013).*Foundations of mass communication*. Port Harcourt: University of Port Harcourt Press
- Ozohu-Suleiman Y.(2010). Media and interpersonal persuasions in the polio eradication campaign in northern Nigeria. *Journal of Public Health in Africa* 1(1) September 2010 DOI: [10.4081/jphia.2010.e2](https://doi.org/10.4081/jphia.2010.e2)
<https://www.researchgate.net/publication/307740385>
- Verderber, R.F. (1992). *Inter-act: using interpersonal communication*. California: Wadsworths Publishing.
- Wood,K.C. & Gladwin, M.T (2008). *Sickle cell disease vasculopathy*: USA: Blackwell Scientific Publications.