

**COVERAGE OF SICKLE CELL DISEASE BY SELECTED NATIONAL
NEWSPAPERS (JANUARY 2016- DECEMBER 2018)**

BY

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DECLARATION

I, Elejo Blessing AWULU, hereby declare that this dissertation titled“COVERAGE OF SICKLE CELL DISEASE BY SELECTED NATIONAL NEWSPAPERS (JANUARY 2016 – DECEMBER 2018)”was carried out by me in the Department of Mass Communication, Ahmadu Bello University, Zaria. The information derived from literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented by another degree or diploma at this or any other institution.

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Date

CERTIFICATION

This dissertation entitled COVERAGE OF SICKLE CELL DISEASE BY SELECTED NATIONAL NEWSPAPERS (JANUARY 2016 – DECEMBER 2018) by Eleojo Blessing AWULU meets the regulations governing the award Master degree in Science (MSc) in Mass Communication of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to God Almighty and my entire family members.

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TABLE OF CONTENTS

Title Page	i
Declaration	ii
Certification	iii
Dedication	iv
Acknowledgements	v
List of Tables	viii
Abstract	ix

CHAPTER ONE

1.1	Background to the Study	1
1.2	Statement of the Problem	6
1.3	Aim and Objectives of the Study	7
1.4	Research Questions	7
1.5	Significance of the Study	8
1.6	Scope of the Study	8
1.7	Limitation of the Study	9
1.8	Operational Definitions	9

CHAPTER TWO: LITERATURE REVIEW

2.1	Introduction	10
2.2	Mass Media and Society	10
2.2.1	Role of the Media	13
2.3	Concept of Health Communication	16
2.4	The Media and Health Education	18
2.5	The Media and Health Communication Campaign	20
2.6	Sickle Cell Disease	23
2.6.1	Health Complication in Sickle Cell Disease	24
2.6.2	Management of Sickle Cell	27
2.6.3	Prevention and Control of Sickle Cell Disease	28

2.6.4	Possible Cure for Sickle Cell Disease	30
2.6.5	World Sickle Cell Day	31
2.7	Review of Empirical Studies	33
2.8	Theoretical Framework	49

CHAPTER THREE: METHODOLOGY

3.1	Introduction	53
3.2	Research Design	53
3.3	Content Universe	54
3.4	Sampling Technique	54
3.5	Census	55
3.6	Units of Analysis	55
3.7	Content Coding Categories	55
3.8	Instrument for Data Collection	57
3.9	Method of Data Analysis	57
3.10	Reliability	57

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1	Introduction	59
4.2	Data Presentation and Analysis	60
4.3	Discussion of Findings	64

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1	Introduction	72
5.2	Summary of the Study	72
5.3	Conclusion	74
5.4	Contribution to Knowledge	76
5.5	Suggestion for further studies	76
	References	77
	Appendices	95

LIST OF TABLES

Table 1: Table showing the total number of stories per Newspaper -----	60
Table 2: Cross tabulation showing the frequency of reports per Newspaper -----	60
Table 3: Table showing the Position of the stories reported in the Newspapers -----	61
Table 4: Cross tabulation showing the direction of report of sickle cell disease by the four newspapers-----	62
Table 5: Table showing the sources of stories per Newspaper -----	63
Table 6: Table showing the major agencies/personalities behind sources of sickle cell stories -----	63

ABSTRACT

The study focuses on the coverage of sickle cell disease by selected Nigerian national newspapers. Four newspapers were selected using simple random sampling through balloting from a list of high circulation and widely read national newspapers. The study adopted the quantitative content analysis and adopted a census study of four Nigerian newspapers; the *Guardian*, *Vanguard*, *Daily Trust* and *Punch*. The agenda setting theory was used as the theoretical framework and the instrument used for data collection was a self-designed code sheet. The study covered a three-year period (January 2016 to December 2018). Analysis was done using frequency and percentage scores and presented in tabular form. The findings revealed that the selected newspapers reported issues of sickle cell disease. However, the coverage was low with a total of two hundred and three (203) news stories by the four newspapers during the period studied. In addition, findings show that prominence was not given to the coverage of sickle cell disease since most reports were found on the inside pages of the newspapers. Articles emphasized on genetic causation, effect of the disorder and prevention of the disease. It was revealed that the newspapers' source for information are majorly from Non-Governmental Organizations (NGOs), Ministry of Health as well as the World Health Organization (WHO). The study concludes that the coverage of sickle cell disease by the four newspapers was under low. Therefore, it recommended that Nigerian newspapers should give prominence to sickle cell disease to adequately fulfil their Agenda Setting role to the Nigerian populace as far as educating the people on the causes, effects and prevention of sickle cell disorder,

CHAPTER ONE INTRODUCTION

1.1 Background to the Study

The media play an important role in providing information to the public about health and medical issues. To this effect, there is a general consensus among media scholars, researchers and practitioners that the media are significant sources of health related information and are very influential sources in shaping the way people think about and discuss health issues (Coleman, Thorson & Wilkins, 2011). The media is one of the powerful driving forces of modern society. It is not just sources of information for the general public, but also potential vehicles for educating the public especially when it comes to health matters. It has been seen that the media performs the function of creating awareness, entertaining, educating and informing the general public about health dangers, disease outbreaks, preventive health measures, health conditions as well as healthy lifestyle practices (Uwom, 2014).

The mass media are communication channels that comprise of different devices used by the source with the intent of reaching heterogeneous audiences with messages simultaneously. The communication channels comprise of the print, broadcast and social media. All these forms of media are used to get the public enlightened and educated. Amongst all these medium of communication, the print media have been known for their long-term effect in reaching out to the masses, the published or printed information are capable of being stored for a long period of time for future use (Soola & Alawode 2007). It is often said that information and communication are necessary for the world and without communication, the world is incomplete. In order to get adequate information and knowledge about health issues and to live healthy, people look up to the media as a source of their information. Also, Chewa, Mandelbaum-Schmid & Gao (2006) acknowledged the fact that the mass media are an alternative sources people rely on for health information.

Scholars have considered newspapers as potential communication resource because it often reports health issues in a more comprehensive way (Rodney, 2010). This is the reason why newspapers, have been found to be very effective in influencing the reading public as well as the opinion leaders on issues of public health.

According to United State Agency of International Development (USAID) report as cited in (Daniel & Alawari, 2016, p. 43), “the media is an important ally in public health situation. It serves the role of being a source of correct information as well as an advocate for correct health behaviours. But before the media can take up that role, it needs to understand the virus, the issue surrounding it, policy and practices and finally, recommend correct behaviour”.

The mass media in the form of radio, television and newspaper are an effective way to persuade the target audience to adopt new behaviour or to remind them of crucial information (Boyd & William, 2009). Newspapers as a form of mass media are among the most widely read periodicals that are available and accessible to the vast majority of all ages (Igbeka & Ola, 2010). According to Wilson, Booth, Eastwood & Watt (2008), daily national newspapers remain a major source of news for clinicians and consumers alike with over ten million newspapers sold every day. They are used as tools for disseminating health information to the general public. Studies have shown that people generally seek health information from newspaper for health awareness (Ahmed & Bates, 2013) to avoid health risks (Rachul, Ries & Caulfield, 2011) and to live healthy lives (Gollust & Lantz, 2009). In this regard, newspapers are generally known for their daily, current and timely information. This shows that newspapers are essential channels of mass communication through which members of the public improve their health orientation and general health behaviours.

One of the areas in which the media is tasked with, is the area of health communication. According to the US National Centre for Statistics (2012), health

communication is the art or technique of influencing, informing and motivating individuals, institutions and public audience about the importance of health issues including disease prevention and health promotion. The purpose of disseminating health information among others is to influence personal health behaviour, increase audience awareness and knowledge of health issues. For health communication to be effective, the information disseminated should be accurate, consistent, and available to vast audiences. The message should also be delivered in the way the audience understand in order to get the desired response or reaction from the audience.

Through effective communication, public health officials can engage the public and help them to make informed and better decisions. Such effective media communication requires trust and understanding between health officials and the media because they depend on each other to be successful. The media depend on public health officials for timely and accurate information while the public health officials depend on the media to get their messages out to the public before, during and after emergency (WHO, 2005). This shows that the media are the primary source from which individuals learn about health risk and other health related matters (Brittle & Zint, 2003).

Sickle Cell Disease is a public health problem that affects millions of people worldwide, approximately 100,000 people in the US, 12,500 in the UK, similar numbers in France and millions in Africa, Mediterranean basin, the middle East, India and Brazil (Hassell, 2010). It is one of the most common hereditary diseases worldwide and it has been acknowledged by the World Health Organization (WHO) that it has a global impact. Nigeria has the largest population of people affected with Sickle Cell Disease with an annual infant death of 100,000 representing 8% of infant mortality and an estimate of about 25% of Nigerian Adults that have sickle cell trait and 1 to 3% have Sickle Cell Disease (Emechebe,

Onyire, Orji & Achigbu, 2017). There is no doubt that the prevalence of the disease is increasing and those affected with the disease are among the most vulnerable in the society.

Sickle cell is a recessive genetic blood disorder which causes the red blood cell to develop a crescent or sickle shape due to the change in shape, the red blood cell delivers less oxygen to the body tissues and there is a chance of the cell getting caught in the small blood vessels which can interrupt blood flow. This is because sickle cells are stiff and sticky and they tend to block the flow of blood in the blood vessels which causes pain and organ damage (National Institute of Health, 2006). However, the normal red blood cells are disc shaped, smooth surface and enabling them to move easily through the blood vessel.

The health outcome of Sickle Cell Disease has made it an important issue of public health concern in Nigeria (WHO, 2006) because it affects all aspects of the patients' lives. Despite this however, sickle cell disease is not receiving the necessary attention required to be addressed as the major health public concern. According to Bazuaye & Olayemi (2009, p.46), "one of the most striking facts about sickle cell disease is the lack of public awareness, knowledge and interest in this disease. Despite the large number of people affected with the disease, the level of awareness and knowledge about the disease is low". Therefore, public education and awareness will play an important role in improving the general public understanding and this can be achieved through the help of the mass media. The print media like other media can be used to educate, enlighten, inform and mobilize people in regards to sickle cell disease.

Media organizations, Governmental and Non-Governmental Organizations arrange workshops, symposia, publish sickle cell information in newspapers, organize special days for sickle cell disease as well as talk shows on radio and television which helped in creating awareness about the disease, as well as reduce infant mortality rate and prevent the spread of the disease. These help reflect the objectives of public health which are to educate, to improve

public health, to conduct long term campaign in order to create understanding of complex information. Public health professionals have begun to explore the purposive use of the media as a means for shaping health attitudes and behaviour. Communication campaign is one of the tools used in promoting health and social change (Salmon & Atkin, 2003) and it aims to produce specific goals, outcomes and impacts. This will help to increase public knowledge, persuade or motivate behaviour change and attitudes on issues of Sickle cell disease, HIV/AIDS, Polio, Ebola etc.

In the United States of America, there are several policies guiding sickle cell disease. For instance, America Federal Legislation of 1972 (Natural Sickle Cell Anaemia Control Act) that was later replaced by the new born screening for sickle cell disease in 1980's which ensured that all citizens especially black Americans' new born were screened for sickle cell disease (Scott & Castrol, 1979). The policy enabled children to grow up knowing their genotype. Also, the 1972 Sickle Cell Disease Control Act was the first law to mandate funding for scientific research programs on sickle cell disease and this has improved the quality of life and care for patients with the disease. These programs are aimed at reducing the percentage of deaths from sickle cell anaemia by promoting research on treatment and prevention (Bonds, 2005). This has shown that the United States are up front in the prevention of the disease unlike in Nigeria where we are still lagging behind even though we have very high prevalence rate.

In Nigeria, the Nigerian Sickle Cell Disease Network (NSCDN) was established in 2010 as a cooperating body bringing together Nigerian physicians, Non-Governmental Organizations and other interested bodies within the country to educate and enlighten the public about the disease. There are also Non-Governmental Organizations in Nigeria such as National Sickle Cell Centre (NSCC) that establish foundations to address the problems of sickle cell disease in accordance with the recommendations of the World Health

Organization(WHO). They organize camps where large numbers of people gather and their blood samples collected to carry out laboratory investigation.They also carry out awareness campaign to enlighten people more about the disease, as well as support the patients with drugs. Examples of sickle cell foundation in operation in Nigeria include: Safiyya Sickle Cell Foundation, Samira Sanusi Sickle Cell Foundation, and Sickle Cell Health Promotion Centre to mention but a few.

1.2 Statement of the Problem

Sickle Cell Disease is a chronic disease that is not well known and recognised by many individuals in Nigeria as a significant health problem with serious complication(Ugwu, 2016;Dasai, Bhandari, Atul & Shah, 2014;Umana &Ojebode, 2010;Bazuaye&Olayemi, 2009; &Adewuyi, 2000).

Many communication scholars like Opeyemi (2010), Ogbonna (2016) & Okoro, Ukonu, Odoemelam&Eze (2015), have conducted several studies on mass media coverage of health issues within health communication field. However, most of these studies have paid little or no attentiononcoverage of health issues in relation to sickle cell disease except for the studies conducted by Umana &Ojebode (2010), Cantor, Miller, Larisey& Murphy (1979) to evaluate the use of media in addressing the need for information regarding sickle cell disorders. These studies also were on the broadcast media coverage of the diseases.

Review of the literature also shows that most studies conducted on sickle cell disease adopted survey research method (Ugwu, 2016;Ezenwosu, Chukwu, Ikefuna, Hunt, Keane, Emodi&Ezeanolue, 2015; Umana *et al*, 2010; & Cantor *et al*, 1979). These studies were more of audience-basedresearch hence a conscious decision was made to conduct a media-basedresearch as a way of creating a balance between audience-based and media-based studies as far as sickle cell media coverage is concerned.

Therefore, the issue concerning the reportage of sickle cell in the print media seems to be neglected when the magnitude of the problem is compared to other diseases like Malaria prevention, family planning, HIV/ AIDS, Ebola, Cancer, Polio vaccination etc. which have had greater public interest and coverage.

Thus, in this study, emphasis is placed on sickle cell disease coverage by Nigerian Newspapers because it has the potentials of creating awareness of the disease as well as drawing the attention of the government health department and agencies which can lead to the formulation and implementation of more health policies.

1.3 Aim and Objectives of the Study

The aim of this research is to examine the attention paid by the media (Newspapers) in the coverage of sickle cell disease from the year 2016 to 2018. In order to achieve this, the following objectives were developed to guide the conduct of this research:

1. To determine the sources of information on the disease reported in the selected Nigerian newspapers.
2. To investigate the frequency of coverage of sickle cell disease in *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers.
3. To examine the level of prominence given to sickle cell disease between *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers.
4. To discuss the direction of report of sickle cell disease between *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers.

1.4 Research Questions

The study is guided by the following research questions:

1. What are the sources of information on the disease reported in the selected Nigerian newspapers?

2. What is the frequency of coverage of sickle cell disease by *Guardian, Vanguard, Daily Trust* and *Punch* newspapers in Nigeria?
3. What is the prominence given to sickle cell disease by the selected newspapers in Nigeria?
4. What is the direction of reportage of sickle cell disease in *Guardian, Vanguard, Daily Trust* and *Punch* newspapers?

1.5 Significance of the Study

Media coverage on sickle cell disease is a vital area to study due to the high prevalent rate of the population affected with the disease. It is estimated that there are more than 40 million individuals who carry the sickle cell trait in Nigeria and more than 150,000 babies are born yearly with the disease (Galadanci, Wudil, Balogun, Ogunrinde, Akinsulie, Hasan-Hanga, Mohammed, Kehinde, Olaniyi, Diaku-Akinwumi, Brown, Adeleke, Nnodu, Emodi, Ahmed, Osegbue, Akinola, Opara, Adegoke, Aneke & Adekile, 2014). One of the Nigerian newspapers has tagged Nigeria as the ‘‘capital or headquarter of sickle cell disorder in the whole world’’ (The Nation, 2008, P.18).

This study is significant because news coverage of health matters take on considerable implication, in that it has a potential to shape the impressions of average citizens and powerful policy makers alike. This is because newspapers have the potential of creating awareness of the disease as well as drawing the attention of government health agencies which can lead to the formulation and implementation of health policies. This research may also make media organizations to understand the level of coverage given to such issue.

Finally, this study will add to the body of knowledge as another existing literature.

1.6 Scope of the Study

This study involves the assessment of *Guardian, Vanguard, Daily Trust* and *Punch* newspapers. The study will cover a three-year period from January 2016 to December

2018. This period is chosen to see the effort made by the media (selected newspapers) in the trends of coverage given to sickle cell disease. This duration of time for the study, covers the edition of the newspapers published for 36 months (3 years). Studying all editions of four newspapers for 3 years is adequate enough to measure the trend of coverage given to the sickle cell phenomenon within the period.

1.7 Limitation of the Study

It was difficult to lay hands on literature that had direct bearing on sickle cell disease hence it was able to review literature that dwelt more on other health related issues such as malaria, maternal health, HIV/AIDS, Ebola virus and others.

1.8 Operational Definitions

Coverage: This refers to the number of percentage of columns, pages covered by the newspapers, position or placement of the story in the newspaper (prominence).

Placement: This refers to the position where news stories on sickle cell disease are placed on the newspapers either on the front page, inside, centre spread and back page.

Direction of Report: This involves the tone used in reporting stories on sickle cell disease.

In-house Column Publication: This refers to a newspaper page(s) given to special columnist who writes or discusses issues of sickle cell disease on regular basis within such pages.

Articles: For this study, article refers to all the stories published on pages of selected newspapers with the subject of interest laid on sickle cell stories either in form of straight news, opinion, editorials, column, opinion and features stories.

National Newspaper: In the context of this study, national newspaper is seen from the perspective of circulation and spread.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter is basically concerned with the review of related literature in order to present a comprehensive account of various scholars' contribution on the variables of this study. It also discusses the Agenda Setting Theory as the theoretical framework adopted in this study.

2.2 Mass Media and Society

Mass media refers to the communication device which can be used to communicate to a large audience in different languages. It is the reflection of our society and it depicts what and how the society works. There is hardly any society that can function properly today without the media. Inuwa (2007) define media as a collective means of communication by which the general public is kept informed about the day-to-day happenings in the society. The mass media cannot exist without an audience, and the mass media with large audience are considered as successful and powerful (Bucur, 2000). The mass media are so phenomenal to the existence of man hence; removing the media from the day-to-day existence of man is tantamount to denying man's existence (Tejumaiye, 2004). In essence, the mass media are channels through which news, entertainment, educational messages are disseminated to the society. Communication is seen as a process by which an idea is transferred from the source to the receiver with the intention of changing their behaviour (Kule, 2005).

Mass media have been described as a powerful presence in the daily lives of every person regardless of race, nation or socio-economic class because people read newspaper, watch television, listen to radio, watch movies and browse the web (Rendon, 2002). Hence, media construct our reality and help to define who we are and even who we wish to become (kenix, 2011). This is reflected in the way we think as well as our opinion toward certain issue.

The way the media defines a problem determines the way people try to solve it. As such, the mass media enjoy the position of being instrumental to and explicitly involved in society's shared understanding and knowledge of health issues (Hodgetts & Chamberlain, 2006). Uwom & Oloyede (2014) note that the media has the ability to effectively communicate health information and effective health information can affect individual's awareness, attitudes and behaviour change. Okidu (2013) observes that the ability of the media to convey adequate and accurate information can be highly effective and successful in creating awareness and knowledge that can lead to changes in social contexts within which individuals operate. Perhaps the most powerful role of the media is setting the appropriate agenda in the goal of prevention, care and support in health-related issues. The media has the capacity to play a positive role in addressing and improving health conditions in the society (Kline, 2003).

There are several types of mass media. They are categorised into print media, electronic media and new media. All these media are used in transmitting messages to the people and are sources of disseminating information, health related information inclusive.

The print media is regarded as a relatively old medium of communication. It consists of newspapers, books, magazines, leaflets, brochures, hand bills, flyers, press release etc. Diedong (2013) observes that the print media play a central role in promoting the knowledge of people on issues of health as well as shaping their understanding of medicine and science in general. This medium has a relative advantage of permanence of information and can be used for future reference. According to Daramola (2003), some advantages of the print media (newspapers) is that it provides a wider variety of news and information than other media and it also presents more details than radio and television.

Newspapers carry a rich mix of news, features, articles, columns, cartoons, graphics, editorials etc that the readers can select what they want from the entire content. For a long

period of time, the public relied on writers and journalists for local newspapers to provide them with the latest news in current events. Igbeka & Ola (2010) asserts that newspapers are among the most widely read periodicals that are available and accessible to the vast majority of people of all ages and walks of life. Newspapers are the most preferred medium to reach wider audiences and are seen as wholesome package for news stories in the area of politics and other events.

The roles of newspapers in health education lie in their capacity to teach, manipulate, sensitize and mobilize people through information dissemination (Nwabueze, 2005). They have been considered as potential communication resource because they often report health issues in a more comprehensive way. This is the reason why individuals, families and organizations use health information in newspapers to meet crucial health needs. Newspapers are one of the primary sources from which individuals learn about health risks and other health related matters (Brittle & Zint, 2003). This shows that the newspaper has the power to frame issues and perhaps to influence perception of the risks and benefits of health interventions.

Today, many developed countries seek health information from newspapers by members of their public. For instance, Gasher, Hackett, Gutstein, Ross & Dunn (2007) postulate that health is a prominent topic in Canadian Daily Newspaper reportage. On a daily basis, Canadian newspapers report health related stories on topics such as breakthroughs in medical research, studies related to the quality of drinking water or government spending on the health care system. Gasher *et al* (2007) further note that the news value attributed to health topics by newspapers consequently engage the attention of Canadian population at large.

Newspapers are known for their daily, current and timely information reportage and their easily accessible storage factor. According to Vivian (2009), in most communities, newspaper covers more news at greater depth than other competing media. A

newspaper may carry more items than the television or radio and even at greater length. Most people prefer the newspaper because it is handy and could be referred back to. A busy man, who has limited time, would not have the patience to sit down to watch television news but would prefer to grab a copy of the newspaper and read it on his way to work or at his office when he needs to relax.

2.2.1 Role of the Media

The media has remained an integral part of human civilization and it is essential in our daily lives. It is a fundamental part of the society and has an outcome on the nations' future, viewpoint and the world/globe view. The role of the media is not only limited as information providers, but by gradually shaping public opinion, personal beliefs, people's self-perception, the media also influences the process of socialization and shapes ideology and thinking (Parkavi, 2016). The media is playing an outstanding role in creating and shaping public opinion in relation to different issues of concern such as health, politics, entertainment, business etcence, they are responsible for the way the audience perceive and build their personal view of the world and the way it operates. The media therefore, can create awareness of sickle cell disease and other related diseases that are detrimental to human health by organising programmes, seminars, interviews, debates as well as publishing articles, news, editorials in order to enlighten the public of the existence of such disease. The media can also shape the opinion and perceptions of their audience regarding different ailments by clarifying wrong perceptions as well as what the audience see as strange ailments.

The media today carries a great deal of social responsibility and to provide accurate, accountable, balanced and reliable information to the public (Voakes, 2004). They are responsible for seeking out the truth and reporting it accurately. The freedom of the press is actually an extension of freedom of expression and this has provided an opportunity for the

media to disseminate information to the public without fear or interference. In other words, press freedom also means the freedom journalists have to perform their duties without interference of any kind, while still maintaining ethical standards (Onwubere, 2000). Therefore, it is the responsibility of the mass media to provide information to the public without fear and to guide the public to the right path in accordance with the acceptable norms and values of the society. The media possess a great deal of influence in today's society and are able to use their own judgement when reporting current events so as to sway the minds of many individuals in the society. Therefore, people in the society look up to the media to be accurate, fair and balanced when reporting such issues. This implies that the press is socially responsible in reporting health news.

Studies conducted by Maibach, (2007) and Miles, Rapoport, Wardle, Afuape & Duman (2001) have shown that the media has profound influence on the lives of people. For instance, when reporting health news, information disseminated through the media is prompt and timely to raise awareness of an impending disease especially during an outbreak of new transmissible disease. On the contrary, failure of the media to report accurate information, to identify vested interest stories, to follow up stories and to cover important health issues can have a negative consequence on the audience, stir up public anxiety or panic and expand negative impacts on social stability (Hung, 2012). Issues regarding health need to be adequately covered by the media and reported professionally to create awareness among the people and to prevent the spread of various diseases. The media has actually met the responsibility of providing timely, accurate, clear, objective, consistent and complete information to the public concerning health issues and this has been seen in the case of the disease outbreak in Nigeria. For instance, during the outbreak of Ebola, the media provided clear and timely information by bringing out the story quickly to the public in order to alert

them of the danger of the disease as well as the preventive measures to be taken to prevent the spread of the virus.

The media has the responsibility of being a mirror to the society in order to inform people about the things happening in their surroundings. Chowdhury, (2014) is of the view that the function of the media is to observe the society closely and continuously warn about threatening actions that are likely to happen in future to the mass audience in order to decrease the possible loss. Such health reports go a long way in putting health issues in the minds and lips of everyone (Uwom, 2012 cited in Agbana & Usman, 2014). According to Hasan (2013) the media serves as a mirror to the society by monitoring the behaviour of people and ensure that the system of operation is in conformity to the desired norms of the society.

In discharging this duty, the mass media carry out a surveillance function and ensure that the public get access to adequate information. Josephat (2008) observes that the surveillance role of the mass media presupposes that the media are the eyes and ears of the public. The media provide vital information and alert the public about the happenings of events around them which makes them to perform the watch dog function. Asemah (2011) is of the view that the media in their surveillance activities scout around their environment and bring news of development, danger, threats to national stability and threat to public welfare of the people. Therefore, the media bridge the communication gap between different sections of the society by reporting news on health, environment, politics, economy etc which are clear evidence of providing space for the unheard members of the society.

On the other hand, the people in the society take media reports as things that affect their interest and use them to form attitudes, opinions and take decisions on issues that affect them in the society (Hasan, 2013). This shows that the media has the power to direct our

attention towards certain issues and news coverage on health tends to assign the power to control individual health to medical expert through the use of technology.

Furthermore, the media critically analyse public policies, social and cultural issues in the society. It is based on this that Nwosu (2008) assert the view of McQuail that “the most important responsibility of the media is to promote and defend social concerns, report events accurately and set agenda for the public discussion of the news of the day”. The media is an integral part of policy formulation because they are often taken or mistaken to reflect public opinion regarding policy issues (Hodgetts & Chamberlain, 2006). This implies that policies are more likely to be developed and implemented only if policy makers consider that there is sufficient public support expressed through media coverage. Thus, media coverage of health issues can ultimately drive public policy and health care decisions (Bomlitz & Brezis, 2008). The media may equally influence individual health decision and also lead to changes in public policy and public perception (Stryker, Moriarty & Jenson, 2008). It is also through the media that we know the culture and social norms of various groups in our society.

2.3 Concept of Health Communication

Health communication is a process that is based on a clear strategy and planned activities designed to promote the change to healthier behaviour. Health communication is the art or technique of informing, influencing and motivating individuals, institutions and public audience about important health information including disease prevention and health promotion (US National Statistics, 2012). This shows that when health communication is applied appropriately it can create awareness as well as bring about behavioural change. If people are aware of a disease, it becomes easy for them to change any attitude that may be detrimental to their health (Salawu & Oyewo, 2007).

According to the National Cancer Institute (2001), health communication can increase the intended audience’s knowledge and awareness of health issues, problem or solution;

influence perceptions, beliefs and attitudes that may change social norms; prompt actions, demonstrate or illustrate healthy skills, reinforce knowledge, attitudes or behaviour; show the benefit of behaviour change; advocate a position on a health issue or policy, increase demand on support for health services, refute myths and misconceptions and strengthen organizational relationships.

The media are in a unique position to disseminate health information to the public since they have access to sources of information and the population at large. The strategy and communication plan the media uses to disseminate health information include media campaigns, interpersonal communication and even the use of many communication channels which include: mass media vehicles, brochures, posters and other printed materials.

In order to disseminate effective health information to a heterogeneous audience, a study conducted by Brodie, Foehr, Rideout, Baer, Miller, Flournoy & Altman (2001) has shown that even brief exposure to health information through entertainment media can have strong effects in shaping people's behaviour. Health communicators can bring their expertise to bear in entertainment-education, media advocacy, new technology and interpersonal communication including patient to provider communication (Freimuth & Quinn, 2014). The importance of effective patient to provider communication in delivering high quality care is well accepted. Good patient provider communication is associated with better patient satisfaction, better adherence to treatment recommendation and improved health outcome (Weech-Maldonado, Morales, Spritzer, Elliot & Hays, 2001).

The practice of health communication has contributed to health promotion and disease prevention. It has led to the improvement of interpersonal and group interaction, through the training of health professionals and patients in effective communication skills. Another way of disseminating health communication messages is through public health communication

campaign that seeks to change the social climate to encourage healthy behaviour, change attitudes and motivate individuals to adopt recommended behaviours.

Catalan-Matamoros, Axelesson&Strid (2007) argue that the dissemination of health information through newspaper is a very effective way of reaching the general public as the descriptive analyses of space related to health in newspapers possibly can show how health information is being delivered and also how the public receives health messages.

2.4 The Media and Health Education

Mass media has been identified as a major source to learn about health issues and to receive health information for healthy living and survival on health related matters. This is because the mass media are highly influential in shaping discourse about health (Lewison, Tootell, Roe & Sullivan, 2008). Hence, health information disseminated by the media influences people's health choices and influence their health literacy for sustainable health development.

Health education is an effective tool that helps to improve health in developing nations. It does not only teach prevention and basic health knowledge but also conditions ideas that reshape everyday habits of people with unhealthy lifestyle. (Kann, Brener&Allensworth, 2001). The Joint Committee on Health Education and Promotion Terminology (2001) defined health education as any combination of planned learning experiences based on sound theories that provide individuals, groups and communities the opportunity to acquire information and skills needed to make quality health decisions. In line with this, the mass media are intensively employed in public health education through the production and distribution of books, leaflets, pamphlets, newspaper articles, radio and television programmes which can be used to pass across vital information to the public.

The media is an important ally in any public health situation. It serves the role of being a source of information as well as advocate for better health behaviours. However, before the media can take on that role, it needs to understand the virus, issues surrounding it,

policy and practices so as to finally recommend better healthy behaviours (USAID, 2006; Ankem, 2006).

The mass media play an important role in educating and informing the public about health issues. They create awareness about new diseases and where to seek help thereby creating a forum where health related issues will be discussed. This can be achieved by organizing programmes where experts are invited to educate the public about the danger of a disease, plan communication strategy to deliver the information to the public through drama. The mass media in the form of radio, television, newspaper, magazines etc are effective ways to persuade the audience to adopt new behaviours or to remind them of crucial information. As a medium of mass communication, newspapers serve as tools for shaping thoughts and means of controlling economic and political powers. They also provide an essential forum for public discussion and debates, thereby providing guidance for the society (Copeland, 2003). Newspaper also fulfils the basic function of informing, educating and entertaining like other channels of mass communication. They devote attention to the coverage of various aspects of human endeavour and subject area. Therefore, the media is regarded as a vital channel in promoting health information and publicizing various health issues and disease for public awareness. Boyd & William (2009) are of the view that the mass media in general also helps health workers to expand their audience reach because they are effective in informing and perhaps in persuading audiences to adopt new behaviour.

The mass media also have the potential capacity towards educating the public on health related issues and shaping their beliefs (Knudsen, Omenas, Harvey, Lovvik, Lervik & Mykletvn, 2011). For instance, in Nigeria, the mass media is playing a major role in creating and raising awareness about polio issues, educating the public on the importance of polio vaccination as well as mobilising communities to support polio eradication efforts (Muhammad, Yahaya, Ibrahim, Tijjani & Ahmad, 2015). There are also various campaigns

were carried out by government and non-governmental organizations to educate parents on the need to take their children for the vaccine in order to prevent the disease. The media through health education have helped to eradicate polio through the use of drama, interpersonal communication and advertisement to shape the public beliefs and correct the misconception of immunization.

The mass media is regarded as a powerful mechanism to promote awareness and education on public health issues. For instance, a study conducted by Ngilangwa, (2007) in the Kilimanjaro Reproductive Health Programme (KRHP) in Northern Tanzania showed that radio was an essential tool in educating and mobilising communities with HIV prevention clinical trials and was particularly valuable in promoting actual participation in the clinical trials. Newspapers also play an important role in health education in their capacity and capability to teach, sensitize and mobilize people through information dissemination (Nwabueze, 2005).

2.5 The Media and Health Communication Campaign

The media as communication channels are very important in public awareness campaigns, eradication of fears and misconceptions (Love, Amesen & Philips, 2014). Mass media campaigns are best used for creating awareness and promoting good health in the society especially in the case of emergency and critical situations. The mass media tend to have an upper hand in health communication campaign to inform and educate the public about healthy habits. Communication campaigns are directed at a particular population within a period of time in order to achieve a particular goal. Communication activities such as; public service announcements, in-school presentations, discussion groups, clinic-based counselling, distribution of handbills, flyers and mounting of posters can be organised when carrying out health campaigns (Meinke & Martin, 2017).

According to European Centre for Disease Prevention and Control (ECDC; 2011), health communication campaigns are useful tools in the promotion of health and are increasingly important in the prevention and control of communicable diseases. Health campaigns can be said to be successful if the campaign is developed in a strategic way and informed by the principles and theories of effective communication (Atkin, 2001).

Mass media campaigns are aimed at stimulating individual behaviour change. Intervention to change health related practices take a variety of forms involving both interpersonal communication and the mass media. Therefore, creating effective health communication campaign requires a thorough understanding of the various media channels available as well as the issues and appropriate strategies for delivering the messages to achieve the best result possible (Crawford & Okigbo, 2014).

The effectiveness of a health communication campaign can be evaluated by measuring the impact on improving the quality of life or the reduction of adverse effects on individuals (Bennet & Glasgow, 2009). According to the World Health Organization, for health communication campaigns to be effective and successful, the following attributes need to be considered when designing health communication programs: accuracy, availability, balance, consistency, cultural competence, repetition, timeliness and understanding (United State Department of Health and Human Services, 2000). People respond to health messages when they trust the source of the message. Honesty and consistency of information from public health officials are the components frequently identified to determine trust or distrust (Meredith, Eisenman, Rhodes, Ryan & Long, 2007). The key categories of public communication campaign massagers are celebrities, public officials, topical experts, specialists, professional performers, experienced individuals (victims or beneficiary), and unique characters (animated or costumed) (Atkin & Rice, 2012). A source with high credibility will influence the audience decisions to accept the message disseminated and react

positively towards the information. Therefore, health communication messages must be communicated by credible organizations and spokespeople that balance trustworthiness and expertise (Snyder, 2007).

The mass media channels are popular media of communication to reach large audiences. According to Wakefield, Loken&Hornik, (2010), mass media campaigns can directly and indirectly produce positive changes in health-related behaviours across large populations. Media technologies have enabled users to access information, control how the information is presented and respond to information within their immediate environment. In order to reach the target audience, audience research need to be conducted to reflect audience preferred format, channels and context. This simply means that the preferences of information from the audience should match the channels in which the health information is disseminated (Uittenhout, 2012).

Health promotion messages can be presented or framed in formats that convey the same information in ways that portray either the benefits of engaging in a particular behaviour or the consequences of not engaging in a particular behaviour (Meinke& Martin, 2017). In disseminating messages, most campaign designers still rely on traditional broadcast and print channels that carry public service messages, entertainment-education and news coverage. Pages of newspapers have been used as a central campaign vehicle for health communication. Also, entertainment programs carried out by the media is another powerful way of disseminating health information. Brief exposure to health information through entertainment media can have a strong effect on the audience. The internet also displays packaged information on health campaigns on different websites. These have provided wide range of health promotion programs. Interest in the internet as a health promotion tool has grown immensely in the past decade (Korp, 2006). Text messaging is a popular strategy used worldwide to transfer information to a vast audience through mobile phones and internet

sites. Cell phones and internet messaging health programs shows that it is effective in facilitating improvements in knowledge and behaviour change (Head, Noar, Innarino& Harrington, 2013).

Health promotion is an important part of health communication as it involves attempts to persuade individuals to change their behaviour (Kaplan &Haenlein, 2011). Campaigns that promote the adoption of a behaviour that is new to the individual or replacement of an old behaviour with a new one has a greater success rate than campaigns aiming to cease an unhealthy behaviour (Snyder, Hamilton, Mitchell, Kiwanuka-Tondo, Fleming- Milici& Proctor, 2004).

2.6 Sickle Cell Disease

According to the World Health Organization (2006), sickle cell disease (SCD) is the most common genetic disorder amongst black people and one of the major chronic non-communicable diseases affecting children, which poses a significant psychosocial burden, not only on the sufferer but also on the parents.

Sickle cell disease refers to a group of disorder caused by inheritance of a pair of abnormal haemoglobin genes including sickle cell gene (Meremiku, 2008).Haemoglobin is the protein inside the red blood cells that is responsible for collecting oxygen in the lungs and transporting it throughout the body.People who have the disease inherit two copies of the sickle cell gene (Hb SS) one from each parent.If a person inherits only one copy of the sickle cell gene (Hb AS) from one parent, he/she will have sickle cell trait. Therefore, couples who are carriers of the same haemoglobin variant have a 25% chance with each pregnancy that their child will have sickle cell disease, a 50% chance that their child will also be a carrier and a 25% chance that their child will not be affected (Karnon *et al.*, 2000).Trait carriers have reduced parasite density and less severe malaria. This simply means that sickle cell trait confers some resistance to falciparum malaria during critical period of early childhood and

protect them against malaria (Goncalves, Huang, Morrison, Holte, Kabyemela, Prevots & Duffy, 2014). However, sickle cell anaemia patients confers no such protection and malaria is a major cause of ill-health and death in children with sickle cell disease (Aidoo, Terlouw, Kolezak, Elroy, Kuile, Kariuki, Nahlen, Lal & Udhayakumar, 2002).

The patient suffering from the sickle cell Anaemia develops blood related complications and can be suspected due to a family history or by conducting clinical examination. It is characterised primarily by chronic anaemia and periodic episodes of pain. This process ultimately damages tissues and vital organs thus leading to high mortality and serious medical problem (National Institute of Health, 2004). Painful episodes are common complications in children with sickle cell disease when the sickle cells are unable to flow through small blood vessels, they obstruct blood flow causing vascular occlusion (vaso-occlusion). Vaso-occlusion reduces blood flow to an area of the body resulting in pain and this can occur anywhere in the body including the arms, legs, abdomen, and organ. The severity of pain episode can vary significantly among patient ranging from mild to severe and chronic pain which requires hospitalization and administration of pain killers.

Ideally, a person diagnosed as having sickle cell anaemia should get their haemoglobin level examined every three months (Mullen, 2004). This is because sickle cell haemoglobin has short life span for 10 to 20 days and the body cannot replace them at a fast rate which can result to chronic anaemia while the normal red blood cell remains viable in the blood streams for 120 days. Sickle cell Anaemia carriers are absolutely normal and healthy like any healthy person and do not know that they are carriers unless they have a special blood test called Hbs electrophoresis.

2.6.1 Health Complication in Sickle Cell Disease

Researchers believe that onset of pain episodes can be provoked by changes in altitude, temperature and emotional stress, fatigue, menstruation and dehydration (Marlowe

&Chicella, 2002).Some people with sickle cell disease have a range of mild to severe symptoms. Children may start to have symptoms of sickle cell disease as young as 6 months of age. The most common symptoms of sickle cell disease include:

- a) **Pain:**It is one of the most common symptoms of affected individuals. It is the hallmark feature of sickle cell disease (Brown, 2012). During a sickle cell crisis, sickle cell creates a blockage in the blood vessels resulting in a decrease of blood flow and oxygen to certain body parts causing pain.Pain may seem to come from the bones, usually in the arms, hands, legs, feet or back. Also there may be pain in the stomach, chest, muscles and other organs (Ellison & Shaw, 2007). Sickle cell episode may occur anywhere in the body and vary greatly in severity, location and duration among patients which can cause frequent hospitalization of individuals with sickle cell disease (Ballas, 2007).Hand and foot syndrome is one of the first noticeable symptoms that occur in infant with sickle cell disease due to the blockage of the blood vessel in the hands and foot which result in pain and swelling of the hands and feet. The best way to manage the pain is to treat it as soon as it starts and most of them can be treated at home.
- b) **Acute Chest Syndrome:**This is a serious health problem that needs to be treated immediately. It is defined by a new chest X-ray radio-density with combination of fever, cough, chest pain and hypoxia (Gladwin & Vichinsky, 2008). Acute chest syndrome results from the blockage of the flow of blood to the lungs. This symptom can range from very mild to severe and may change quickly.Acute chest syndrome is similar to pneumonia symptoms which include: chest pain, coughing, difficulty in breathing, abdominal pain and fever (Bernard,Yasin & Venkat, 2007).

Acute chest syndrome has been reported to occur in about 50% of sickle cell patients and it has reoccurred in approximately 80% of sickle cell disease individuals

(Fawibe, 2008). This has resulted in the hospitalization of patients and may require medical emergency.

- c) **Stroke:** This is another sickle cell disease complication that happens when a part of the brain is deprived of blood supply and oxygen. A stroke can result in lifelong disabilities and learning problems. It can result in permanent brain damage or death. A stroke is triggered by a decrease in the flow of oxygen due to the major disruption of the amount of oxygen to the brain. It mostly happens to children between the ages of 2 to 10 years old and 24% of patients with sickle cell disease suffer a stroke by the age of 45 and because African-Americans have an already heightened risk for stroke, those with SCD are particularly vulnerable (Verduzco & Nathan, 2009). It is a sudden and severe complication of the illness that represents a medical emergency. Some of the symptoms associated with stroke include: loss of consciousness, weakness of the arms/legs, difficulty in talking, complaints of change in vision, saliva may drip from the mouth, sweating e.t.c. It is also a significant complication in sickle cell disease with the potential for major morbidity and mortality (Strouse, Jordan, Lanzkron & Casella, 2009).

Transcranial Doppler (TCD) testing can predict patient's risk for stroke, enabling preventive treatment. (Mazumdar, Heeney, Sox & Lieu, 2007).

- d) **Aplastic Crisis:** This happens when the body stops making new red blood cells. This condition is often caused by a virus called Parvovirus B19. When this happens, the haemoglobin level drops and this condition is usually treated with blood transfusion until the body starts making new red blood cells again. (Kayser, Gale, Santo, Abish, Pealow, Remmer, Brovillard, Revulta & Rosmus, 2013). Some of the symptoms associated with Aplastic Crisis include body weakness, paleness, dizziness, head ache.

- e) **Priapism** (prolonged and painful erection): This complication normally occurs in boys with sickle cell disease. It is characterized by a persistent and unwanted erection of the penis that can last several hours, caused by difficult drainage of the blood out of the penis vessels due to the sickle cells and this can result to impotency.
- f) **Avascular Necrosis**: Is a condition that refers to the damage caused by sickle cells in the bones and joints. This mostly occurs in the hips and the shoulders. It causes pain and makes walking difficult.

2.6.2 Management of Sickle Cell

Sickle cell disease is a major public health concern and it has a major social and economic implication for those affected. Recurrent sickle cell crises interfere with the patient's life especially with regards to education, work and psychosocial development. Therefore, this disease has to be adequately managed. A key issue in managing sickle cell disease patients is early identification of high risk, in order to initiate treatment prior to the development of debilitating organ damage (Schong, Duits, Muskiet, Cate, Roger & Brandjes, 2004).

In areas where sickle cell disease is common, dedicated centres are required to ensure adequate services for the prevention and treatment of the disease. Activities for management of patients with sickle cell disease should be based at the primary health care level with emphasis on programmes that can reach large people. This can be done through public education, detection of genetic risk, health and genetic counselling, immunization against infections and training of health personnel.

The main aspect of comprehensive care for patients is early intervention for preventable problems with pain medication, Anti-biotics nutrition, folic acids and supplementation and high fluid intake. Also, individuals with sickle cell disease should receive regular medical care from a haematologist and need to attend a regular clinic for appropriate care. In order to manage the disease, those affected should prevent infections such

as common illness like influenza. Hot and humid weather makes sickle cell disease patients loose water and salt in sweat and they are prone to vaso-occlusive crisis (Al – Arayyed, Hamza & Sultan, 2007) therefore, sickle cell patients should maintain a balanced body temperature. Sickle cell patients should also participate in physical activity to keep them stay healthy but limit vigorous exercise. Keeping balance between activity and rest is crucial for sickle cell disease patients thus, low impact exercise will be useful and safe for maintaining strength but it is advisable that patients should consult their doctors for advice on exercise programmes (WebMD, 2005). Consuming nutritious food is very useful in reducing and managing sickle crisis. It is important for sickle cell disease patients to eat healthy food and drink a lot of water every day. This will help to maintain hydration and proper nutrition.

2.6.3 Prevention and Control of Sickle Cell Disease

Preventive measures can be implemented to control the infection of sickle cell disease. Preventive measures include new-born screening, protective vaccination, and teaching caregivers to recognise early signs of the illness and promote treatment of suspected infections (Robert, Henry, Kenneth & Carine 2002). These preventive measures will make people to be informed about their genetic makeup in order to help them take informed decision. Method of preventing genetic disease includes pre-marital screening and genetic counselling, prenatal diagnosis and preconception diagnosis (Kotzer, Riley, Conta & Anderson 2014). Proper care and treatment have made many people with the disease to live into their forties or fifties.

New Born Screening: Is used to refer to the biochemical test designed to identify the presence of inherited disorder, which are typically metabolic in origin (Therell, 2001). This helps infants with SCD get the care and treatment they need immediately. This entails setting up sickle screening which will help to identify the disease at the early stage and its

believed to be the most effective and efficient screening programmes for the detection and diagnosis of inherited disease (Bioethics, 2001).

New born screening programmes help to identify new born with sickle cell disease and early screening and treatment of the disease can substantially reduce the risk of serious infection during the early years of life (U.S preventive services Task force, 2007). The disease is identified during the prenatal period or at birth and this will help families to know the infant who have been identified as having sickle cell trait or having the disease. This will enable the caregivers to start early treatment and prevent complication.

Genetic Screening: Genetic screening is a public health initiative that has been used interchangeably with genetic testing. Genetic testing is also called DNA based test that involves direct examination of the DNA molecule itself and it allows for genetic diagnosis of those who are vulnerable to inherited disease (Al Sulaiman *et al*, 2008). This can lead to substantial reduction in the number of children born with the trait and this will help individuals to be well informed about the disease. Counsellors can help to inform parents on their chances of having future children with sickle cell disease and this will provide guidance in regards to family planning and prenatal diagnosis.

Pre-Marital Genetic Screening

Pre-marital genetic screening is one of the most important strategies for preventing genetic disorder, congenital anomalies and psychosocial marital problems (Zunyou & Keming, 2005). World Health Organization (2008) described pre-marital genetic screening as services targeted at individuals and families which tries to enable people with genetic disadvantages and their families to live and reproduce as normal, assuring access to relevant medical service and social support system, helping them adapt to their unique situation and providing information to enable educated and voluntary choices in health and reproductive matters.

The objective of premarital genetic screening includes early recognition of disorder for intervention that prevents or reverse the disease process or to ensure optimal management of the patient that is, appropriate referrals to specialists when symptoms are anticipated (Rogan, 2011). For this reason, premarital genetic screening is very important especially to youth because most of them are either married or about to get married. This will help them to know their genotype and compatibility in order to avoid bringing children to the world with the disease.

Vaccination: Adequate vaccination is very important for the people with sickle cell disease because they are more susceptible to infection. Children with sickle cell disease should receive all routine childhood vaccination against the S. Pneumoniae, N. Meningitidis and H. Influenza. Also, adult and children with SCD should receive an annual influenza vaccine starting at six months of age. (American Academy of Paediatrics committee on infectious disease, 2008)

2.6.4 Possible Cure for Sickle Cell Disease

Bone marrow transplant or Hematopoietic stem transplant has been identified as a possible cure for sickle cell disease (National Institute of Health, 2014). According to the Sickle cell information centre in Georgia, USA, about 200 children worldwide have been completely cured of sickle cell disease in the last 20 years through bone marrow transplant.

Bone Marrow Transplant

Bone marrow is the spongy liquid tissue in the centre of some bones. It has a rich supply of stem cells and it is responsible for making blood cell which includes red blood cells, white blood cells and platelets (Kamani, Walter, Carter, Aquino, Brochstein& Chaudhury, 2012). Bone marrow cells are normally located deep inside the bones, primarily found in the backbone (vertebrae), hip bone (pelvis), thigh bone (femur), skull and ribs. The hip bone

contains large amounts of bone marrow and for this reason, cells from the pelvis bone are used mostly for bone marrow transplant because enough marrow can be removed.

Bone marrow and stem cell transplant offers treatment for many diseases such as leukaemia and lymphoma, blood disease like aplastic anaemia and sickle cell disease. A transplant breathes in new life by either reviving or replacing the old marrow to go on to produce new and healthy blood cells(Kamani *etal* 2012).

2.6.5 World Sickle Cell Day

The United Nations Assembly (UN) named June 19th World Sickle Cell Day in 2008 and it was first observed on the 19th of June 2009. It was celebrated with the goal of raising awareness about the sickle cell disease and its cure among the public. The UN has declared 19th of June to be celebrated as the World Sickle Cell Day annually to cover almost all the curable criteria through the fast awareness campaign to take this genetic health condition under control all over the world (Thein &Swee, 2016).

The objectives of celebrating the world sickle cell day event annually are as follows:

- i. To distribute the real information about the sickle cell day event anaemia much closer to the public worldwide.
- ii. To offer a big opportunity to all those suffering from sickle cell disease by letting them know about their sickle cell status through an early diagnosis.
- iii. Provide them an opportunity to get contacted with the service providers of their confirmatory tests.
- iv. To get support from the health Organization for funding, screening, reagents, microscopes e.t.c.
- v. To get together all the medical professionals including lab assistants, scientists, nurses, counsellors e.t.c

- vi. To get online support through the various social media websites to easily and immediately distribute messages among the youths and other age group people.
- vii. To implement new health strategies to completely eradicate the disease from the world.
- viii. To motivate private, government and other health organizations for active participation in the complete eradication of this disease.

World sickle cell day is now celebrated every year on the 19th of June all over the world in order to increase public understanding about the disease and to get effective control over the situation (Sickle Cell Disease Association of Canada, 2016). It is celebrated by the active participation of various governmental organizations, health funding agencies, non-governmental organizations and other health organizations.

The World Health Organization (WHO) and the United Nation (UN) health arms urges countries affected by sickle cell to establish health programs at the National level and promote access to medical services for people affected by the disease. Variety of promotional activities has been organized by the World Health Organization on worldwide level to resolve this haemoglobin dysfunction issue. It has become very necessary to run variety of campaigns to enlighten the publics as well as to encourage them to actively participate in the celebration. This will educate the public to remove social stigma and myths about sickle cell Anaemia. Some of the awareness activities or programs are motivating people for blood drives in the hospital, bone marrow registration drives, discussion campaign, general conversation program among the public, commemorative activities, awareness survey of people, sharing of related stories through newspaper or online media, educational programs in community, presentations, sport activities, organizing rallies, meetings, press conference for awareness, donating tissues and other related activities in schools, colleges and universities (Sickle Cell Disease Association of Canada, 2016).

WHO made some commitment for promoting awareness of the disease they include:

- a) Increasing effective awareness of sickle cell anaemia as a major health issue worldwide.
- b) People living in each and every community all around the world should get aware of the disease.
- c) All the myths and stigmas about sickle cell disease are removed.
- d) All the member countries are requested to establish various health programs to make easy access to the treatment for this disease on the National and Regional level.
- e) Promoting the availability of satisfactory access to the technical supports and medical services for all people suffering from this disease.
- f) All the medical professionals are given well training facility for better prevention, research work and accurate implementation of the resources minimizing disease complications.

2.7 Review of Empirical Studies

Several studies have been conducted by different scholars on the awareness, knowledge, attitudes and beliefs about sickle cell disease but few studies are seen on newspaper coverage of sickle cell disease.

Umana & Ojebode (2010) conducted a study in Akwa Ibom to ascertain the use of mass media for educating Nigerians about sickle cell disease. The study adopted the qualitative survey research method and 15 community health workers in three hospitals and 6 staff of Akwa Ibom Broadcasting Corporation radio involved in producing and presenting health programs were interviewed. The findings from the study revealed that the radio station did not give any health talk or aired any jingle on sickle cell information within the period examined but the major health talk was on HIV/AIDs, tuberculosis and malaria. The findings also revealed that the absence of sickle cell information on radio was as a result of lack of

sponsorship. The study finally recommends that there is need for non- media forces to call media attention to educate people for sickle cell disease in Nigeria and the Nigeria government must also show commitment to sickle cell disease education.

It important to state that the study by Umana &Ojebode (2010) as cited above was too ambitious right from the title “the failure of radio to communicate knowledge of sickle cell disorder in Nigeria”. From this title, the researchers used a research result from one state, Akwa Ibom to represent the whole Nigeria. Also, the duty of health communication is not a preserve of radio alone. Hence, ascribing the inadequate knowledge of the respondents on sickle cell disorder should have been concealed to the doorstep of the entire media because respondents in the study under review do not rely on radio alone for information. Also, the study did not tell its readers how many of the respondents rely on radio for their source of information.

Cantor, Miller, Larisey& Murphy (1979) conducted a study in South Carolina which was concerned with media effectiveness for Sickle Cell anaemia education in a rural community. The survey research method was adopted by this study and questionnaire was used as the instrument for data collection. This study was conducted to determine the relative effectiveness of the various media (television, radio and newspaper) as a means of educating the public and various sub-populations about sickle cell anaemia. The study reported that the placement and timing of the message by each of the media were adequate to assure ample opportunities for reception by the population. It was revealed that newspaper was the most effective media for the delivering of information about sickle cell anaemia among those living in the rural areas with high income and radio was the most effective among the blacks and those of low income while for television, information about sickle cell anaemia were received by city dwellers.

Furthermore, Ugwu (2016) conducted a study in Ebonyi to assess the level of awareness, knowledge and attitude of people living with sickle cell disease among undergraduate students. A survey research method was adopted by the study and data was collected with the aid of a questionnaire. The findings from the study revealed that majority of the respondents (88.4%) have positive attitude towards people living with sickle cell disease and all the respondents were aware of the existence of the disease through lectures (35%), health workers (19.1%), friends and colleagues (16.7%), family members (11.2%), radio and television (10.3%), library (3.3%), internet (1.5%) and poster (0.3%). The study concludes that all the students were aware of sickle cell disease but many of them lack adequate knowledge of sickle cell disease. Therefore, health education should be reinforced to impact adequate comprehensive knowledge about the disease.

In another study conducted by Ezenwosu, Chukwu, Ikefuna, Hunt, keane, Emodi&Ezeanolue (2015) to assess the timing of awareness, knowledge of sickle cell trait status and preferred method of education among parents of children with sickle cell disease. The research method adopted for this study was survey and questionnaire was the instrument used to collect data from parents of children with sickle cell disease from June 2013 to March 2014. The findings from the study revealed that 87% of the participants were aware of their own sickle cell genotype following the birth of a child with sickle cell (45%), during marriage (21.5%), during pregnancy (9.6%) and school admission (9.6%). Finally, the findings also revealed that radio, informational community meetings and television were identified by the participants as the most effective and preferred method of creating awareness of sickle cell disease and sickle cell trait.

Gugsa, Karmarkar, Cheyne &Yamey (2016) conducted a research to examine newspaper coverage of maternal health in three countries (Bangladesh, Rwanda and South Africa) that have so far made varying progress towards Millennium Development Goal 5.

The study adopted content analysis as the research methodology. It content analysed each country's leading National English-language newspaper: Bangladesh's (The Daily Star), Rwanda's (The New Times/ The Sunday Times) and South Africa (Sunday Times/The Time). The findings from the study revealed that Daily Star published 579 articles related to maternal health from January 2008 to 31 March 2013 compared to 342 in The New Times/ The Times and 253 in Sunday Times/ The Times over the same period. The Daily Star had the highest proportion of stories advocating for or raising awareness of maternal health and most maternal health articles in Daily Star (83%) and The New Times/The Sunday Times (69%) used a human right or policy-based frame compared to 41% of articles from Sunday Times/ The Times.

Though the above study was exhaustive to a large extent, but limiting the study to English language newspapers in those countries could pose a limiting problem to the result of the study. The study needed to take cognizance of the possible fact that in some of those countries, there may be existing newspapers that are published in other languages for a good share of the population. Therefore, a study of this kind that is limited to English language newspapers alone may have made the coverage inadequate representative of a whole country.

A study conducted by Ren, Peter, Allgaier & Yin-Yueh (2014), was aimed at comparing newspaper coverage of measles vaccination in the UK and China. The study used content analysis as the research method and the British and Chinese newspapers were analysed from 2006 to 2010. The findings of the study show a clear difference between the UK and China on how biomedical expertise is represented in public communication of a health issue that is related to social controversy. The British media criticism of the mainstream position on vaccination was hardly mentioned in the Chinese newspaper while the Chinese media present the mainstream position as unchallenged and refer to criticism rarely. The findings also revealed that in both countries, the majority of articles explicitly mentioned the mainstream

position towards the vaccination with the same proportion of 58% and 56% respectively. The proportion of articles with critical arguments differs greatly with 44% of the British articles compared to 5% of the Chinese articles. The study revealed above showed that the research methodology adopted by the study was appropriate, the findings were in-depth and the period under study was suitable when comparing the coverage of measles vaccination between the two countries.

Similarly, Shim, Kim, Kye& Park (2016) conducted a study in Korea with the aim of examining news portrayal of specific cancer types with respect to threat and efficacy. The study adopted content analysis as the research method. News outlets which comprises of television, newspapers and other news media were analysed and the results from the findings revealed that threat was most prominent in news stories on pancreatic cancer with 87% of the articles containing threat information, followed by 80% of the articles of liver cancer, 70% of lungs cancer articles and 41% of stomach cancer articles. This showed that the threat of pancreatic and liver cancers was over reported whereas, the threat of stomach and prostate cancer were under reported. Also, the study revealed that efficacy information regarding cervical and colorectal cancers was over represented in the news relative to cancer statistics. On the contrary, for skin cancer, both threat and efficacy were over reported relative to incidence and mortality. Though the study was in-depth in the analysis of the findings from the research, the study failed to specifically talk about the other media as it should be represented in the data which was part of the population under study.

Another study was conducted in Pakistan by Naeen, Adil, Abbas, Khan, Naz, Ayasha & Muhammad (2011) which was aimed at finding out the coverage rate and factors associated with the failure of oral polio vaccine in the urban and rural areas of Peshawar. The study used the quantitative and qualitative research methods with the aid of questionnaire and interview as instruments for data collection. The findings showed that only 64.2% children

were completely vaccinated, 13.3% not vaccinated at all and 22.4% were incompletely vaccinated. The reason for not vaccinating children were lack of awareness (23.8%), family problems/ busy schedule of mothers (20.8%), centre for vaccination is too far (21.3%), wrong ideas (10.2%). This showed that low vaccination coverage is due to low awareness among people.

Similarly, a report by the Kaiser Family foundation and the Pew Research Centre's Project for Excellence in Journalism (2008) conducted a research in California that focused on how the news media cover the vital areas of health and health policy. The study employed content analysis as the research method. Forty-eight different news outlets were sampled and analysed within the period of 18 months from January 2007 to June 2008. The findings of the study showed that health news was the 8th biggest subject in the National news, comprising 3.6% of all coverage, further 8.3% of airtime was devoted to health related news with a heavy emphasis on specific ailment such as cancer and heart disease on network evening news while 5.9% of health coverage in newspaper. Also, news on U.S health policy received 27.4% of the coverage and the cable primetime and daytime programming received 1.4% airtime, online media devoted 2.2% of front-page news space to health-related issues while talk radio allocated 1.6% of talk show time to health news. This shows that newer outlets also have the potential to expand the news hole for health but this study shows health coverage is not given prominence on cables or the internet.

Leask, Hooker & King (2010) conducted a study to explain how journalists in Australia select and shape news on health issues. The study employed a qualitative content analysis to interview 16 journalists from major Australian print, radio and television media organisation. The findings from the study revealed that journalist's sources of information were passively acquired (media contact / press release) particularly in the morning and actively sought (calling local medical experts/ medical journal content). The study also

reviewed that journalist perceived the most trusted source to be interviewed for health information are assessable, respected, independent doctors. Also, specialist health and medical reporters have a sound technical knowledge and power within the organisation to advocate for better quality coverage. The study finally recommends that improved public health advocacy will result in timely and available health information to the public. The study employed the correct research method and the instrument used to collect data for analysis was suitable for this study but it would have been nice if focus group discussion was also used to get information from journalist on how they select and shape news on health issues.

Furthermore, Gupta & Sinha (2010) conducted a research in India that focused on knowing how health related messages appear in print media (newspapers and magazine) and electronic media (television and radio). The study used content analysis as the research method to analyse the print media and the observation method was used to study the electronic media. The findings from the study revealed that health messages on the electronic media appear in the form of talks, interview or discussion programmes while the health messages on the print media appear in the form of feature and editorials. The result from the study also revealed that 40 to 50 health messages were being broadcast per day on radio and 7 to 9 messages were delivered on television. There are also special programmes on radio and television and additional sections in the newspapers that are dedicated on health. The study recommends that health messages should be reported on the front pages of newspapers instead of politics. Although, the research method adopted in the study were appropriate and detailed information was reported on health-related message on the electronic media.

Similarly, Diedong (2013) conducted a study in Ghana to determine how newspaper cover health issues in order to create a shared understanding of the factors and problems of health. The study content analysed three newspapers (*Daily Graphic, Public Agenda and Ghanaian Times*). The findings from the study revealed that 154 news articles were published

regarding health in Ghana and the disease discussed were according to causes, symptoms, treatment and some recommendations for healthy lifestyle. The findings also revealed that most news sources were from the government officials with 24.02%, media with 14.93%, professionals and interest groups with 10.39% and non-governmental organization with 9.74%. The result also showed that the major speakers were medical experts (2.60%), anonymous sources, international organisations and drug manufacturing companies each with 1.27%. The findings from the study revealed that *Daily Graphic* published the highest number of articles on health with 85 articles, followed by *Ghanaian times* with 45 articles and 26 articles in the *public agenda*.

Akintola, Lavis & Hoskins (2015) carried out a research on print media coverage of primary healthcare and related research evidence in South Africa. The study used content analysis as the research methodology to analyse news stories that covered primary health care from 25 South African newspapers retrieved from the Lexis-Nexis online archive over a 16 years period. The findings from the study showed that out of 2,077 news stories, 1,308 mentioned the term primary health care, 463 mentioned the term related to home care and 307 mentioned a term related to community care. The number of news stories discussing infectious disease (55.5%) was more than twice the number discussing non-communicable disease (21.4%). Also, issues relating to how health care is organised to deliver services to people received substantial coverage in the print media with 72.8% discussing delivery arrangements, 72.3% governance arrangements and 55% financial arrangements while 7.5% discusses research studies but none discussed a systematic review. The study recommends that researchers in low and middle income countries need to be more proactive in making use of media analysis to help illuminate health related issues that require the attention of health policy makers, stakeholders and reporters to identify potential areas of research. This study adopted the proper research methodology, the scope under study (16 years) was sufficient

since it was an online version of the newspapers that were analysed. Finally, the findings reported were exhaustive to a large extent which shows that the study was extensively researched.

A study conducted by Davidson & Wallack (2004), in U.S.A was aimed at assessing how the problem of Sexually Transmitted Disease (STD) is presented to the American public through the print media. The study employed the content analysis method as the research methodology. The findings revealed a lack of substantive report on sexually transmitted in the print media. This shows that only 19% of the articles mentioned the causes, consequences, prevention, signs/symptoms, screening, treatment, rate of STDs. The study also showed that there was a lack of detailed report. The study recommends that public health professionals should use media advocacy to increase the coverage of STDs and this will provide an opportunity for researchers, health care providers and community activists to increase the visibility of the issue of STDs.

A study conducted by Abubakar, Odesannya, Adewoye&Olorede (2013), was aimed atascertaining the depth of media reportage of cervical cancer. The study used qualitative content analysis as the research methodology and purposively selected two National weekly News magazines which are *Tell*and *News* magazines. The findings from the study revealed that the two magazines (Tell and News) featured no report on the disease in the period under study and there was a very low level of coverage of maternal health related issues in the two magazines whose contents were quite largely devoted to politics, business and advertising. Therefore, the study recommended that the news media should pay attention to fulfilling their social responsibility mandate to Nigerian society. The study restricted its findings by making use of only the weekly magazine and excluding the weekend magazine which resulted in no report about cervical cancer. There would have been the possibility of coverage of the disease in the weekend magazine which was not studied.

Furthermore, Konfortion, Jack & Davies (2014) conducted a research which was aimed at examining whether recent newspapers covered the four most common cancer types (breast, lungs, prostate and bowel) as it relates to their relative burden and national awareness months. The research used content analysis method and the findings from the research revealed that breast cancer had the highest coverage during its awareness month while bowel cancer was the least covered cancer type during its awareness month. Prostate cancer was the second most frequently mentioned cancer. This showed that the coverage of breast cancer and bowel cancer appears to be influenced by their awareness months while that of prostate and lungs cancer is influenced by media stories.

A study conducted by Odoemelam, Onumadu&Arua (2014) in Abia State aimed to ascertain the frequency of coverage of HIV/AIDS in *Guardian* and *Daily Sun* newspapers. Content analysis was employed as the research methodology and the result showed that HIV/AIDS information was under published in the two newspapers especially in *Daily Sun* newspaper. Also, the study shows that *Guardian* newspaper carried the highest number of stories (77.6%) than *Daily Sun* (22.4%). The study further investigated the determinant of news coverage and the result shows that 64% of the respondents said it is based on organizational ownership, 58% mentioned interest of the editor, 70% said audience demand of a particular newspaper, 58% of the respondents said it is competition among the publishing media while 78% said government made it compulsory for media house. Based on the above findings, it was recommended that journalists should be trained on health issues in order to have adequate knowledge of the epidemic. Also, the coverage of HIV/AIDS should be positioned in strategic pages of the newspaper for easy access by the public.

Furthermore, Onyeizu&Oloyede (2014) conducted a research in Ogun State which seeks to examine newspaper contents with a view to ascertain whether or not adequate coverage is given to health issues in Nigerian newspapers. The research methodology used

was content analysis. The *Guardian* and *Punch* newspapers were critically analysed and the findings from the study revealed that the placement of reports in the selected newspapers (*Guardian and Punch*) were on the front page but were not the major lead. The headlines were on the front page but the stories were inside. The study also revealed that majority of the stories was given less than half page space. This shows that the newspapers did not give prominence to the health issues by the way of placement and space allocation. The study recommends that the media should give more coverage to health by placing the stories in prominent position even though there is a dedicated health page on specific days and also giving more space to the stories.

Torwel& Rodney(2010) conducted a research in Benue State on newspaper coverage of health issues with the aim of investigating how the Nigerian newspapers construct shared understanding of issues and problem in regards to defining the problem and proffering solutions. The research used content analysis as the methodology and analysed four newspapers (*Guardian, This Day, Leadership and Daily Independent*)for the period of two years. The findings from the research showed that the *Guardian* newspaper published the highest number of articles (37.30%) on health, followed by *Leadership* (26.19%), *This Day* (25.13%) and *Daily Independent* (11.38%). The finding also revealed that HIV/AIDS was mentioned in most articles followed by cardiovascular maladies, cancer, reproductive health, problems of health policies and management, high cost of medicines, fake and adulterated drugs topped the agenda of the newspapers during the period of the study. In addition to this, the newspapers also provide readers with information and knowledge based on health and endorsed scientifically proven natural health protector for their managements of ailments. The research further suggests that there should be research conducted to investigate the coverage of health in magazines which is aimed at specific readers.

A study conducted by Ogbonna (2016) in Lagos was aimed at unveiling the coverage of health-related issues in terms of prominence, extent of coverage and the salience given to Ebola virus disease outbreak. The study adopted content analysis as the research methodology and the *Punch* newspaper was analysed for the duration of six months (May to October). The finding showed that Ebola virus disease was given significant coverage and the issue received prominence in terms of story type, but not in the aspect of page placement. The study recommends that newspaper editors must ensure that issues that have to do with the outbreak of deadly pandemic disease should be given placement on the front page of their papers and the press should do a follow-up of such stories in order to report adequately.

A similar study was conducted in Ogun State by Asaolu, Ifijeh, Iwu-James & Odaro (2016) which sought to analyse the various Ebola virus disease themes coverage with a view to establishing the role of the media in awareness, prevention and control of the scourge. The study used content analysis method to analyse *Guardian*, *Punch* and *Vanguard* newspapers. The study revealed that the most common Ebola virus disease theme covered by the newspaper articles within the period was government/ institutional measures and response (271 articles), followed by cases of Ebola virus disease in Nigeria (270 articles).

Another study conducted in Cross River by Daniel & Alawari (2016) aimed to ascertain the extent to which Ebola Virus was given coverage and how the media helped to create awareness on the epidemic. Content analysis was adopted as the research methodology and *Guardian* and *Punch* newspapers were critically analysed. The findings from the study revealed that there are more front page news stories on Ebola virus covered by *Guardian* newspaper (62%) than the *punch* newspaper (38%). Also, the study showed that 53% of the editions had feature stories of Ebola virus disease in *Punch* newspapers while 47% of the feature stories on Ebola virus were covered by the *Guardian* newspaper. The study recommended that the media should be active in handling societal issues by carrying out the

watch dog function. Also, the media, government and non-governmental organizations should invest so much in research in order to promptly tackle health issues.

A similar study was conducted by Adesoji, Layefa & Taiwo (2016) in Ekiti which is aimed at examining the extent of Ebola virus disease coverage by the Nigerian press and the direction of the news presentation of the virus outbreak. The study employed the use of content analysis of the *Punch* and *Nigerian Tribune* newspapers as the research method and the result of the findings revealed that the two dailies gave prominence to Ebola related stories on their front page for maximum impact. The study also showed that the direction of the story presented by the newspapers on the coverage of Ebola disease outbreak was favourable. There were positive stories that reassure the public that the health crisis engendered by the disease would be brought under control.

A research conducted in Ogun State by Opemipo & Koblwe (2013) examined the reportage of malaria from January to December 2011 in *Punch and Tribune* newspapers. The research aim was to identify the frequency of malaria reports according to the story category, prominence, sources of information and themes. The study adopted the simple random sampling technique to select the two newspapers and employed the use of content analysis method. The findings of the study showed that the highest malaria reports were observed in December in *Punch* newspaper and April in *Tribune* newspapers. The study also identified the causes, effect, prevention and treatment of malaria. Malaria reports stories were more in *Punch* (62.5%) and in the *Nigerian Tribune* (59.1%) respectively. In house were the most frequent source of malaria reports with frequencies of 43.8% in *punch* and 54.5% in *Nigerian Tribune*. Also, report of malaria prevention had the highest frequency of 62.5% in *Punch* while 45.5% in *Nigerian Tribune* while reports on malaria treatment had the least frequency of 5.3% in the two newspapers: The study concludes that malaria reports were not given

adequate coverage in the newspapers studied and it was recommended that malaria reportage rates be increased in order to create awareness to the public.

Another study conducted by Okpoko & Aniwada (2017) in Enugu State was aimed at assessing newspaper coverage of hypertension in Nigeria. The study content analysed three newspapers (*Guardian, This Day and Vanguard*) from 2011 to 2013 and the result from the study showed that there were 48 feature stories, 39 straight news stories, 6 public service announcement, 8 interviews and no editorials. The result also showed that the newspapers carried no stories on the front and back pages only on the inside pages. The newspapers made sure they carried issues on hypertension every world hypertension day but stories were not given prominence.

A study conducted by Agbana & Usman (2014) analysed the newspaper coverage of Poliomyelitis in Nigeria. The study employed content analysis of the *Nation* and *Sun* newspapers within 2012. The findings revealed that the newspapers did not give prominence to polio and majority of the stories published on the health issues were in news form which lacks indepth analysis. Therefore, the study recommends that presenting polio issues in prominent position and with a maximum coverage will expand the knowledge of the public.

Similarly, a study conducted in Uyoby Okoro, Ukonu, Odoemelam & Eze (2015) focused on the patterns of press coverage of the immunization programme in Nigeria. The *Guardian, ThisDay and The Sun* newspapers were content analysed. The findings showed that *Guardian* and *ThisDay* newspaper had the highest news article on immunization than the *Sun* newspaper. The study also showed that there was a relatively scanty coverage of the National Programme on Immunization by the Nigerian newspapers. It was revealed that on the basis of National interest, the *Guardian* and *ThisDay* newspapers were strongly supportive of the National Programme on Immunization coverage while the *Sun* newspaper appeared to have no such inclination.

Herbert & Mfon (2017) conducted a study in Uyo to examine the coverage of maternal mortality and morbidity. The study used content analysis as the research method and analysed *Punch* and *Nation* newspapers from January- December 2015. The findings from the study revealed that a total of 53 articles on maternal mortality and morbidity were found in the two newspapers. The study revealed that Haemorrhage was found to be the maternal mortality and morbidity issue that garnered the most attention and the most reported genre was the news/feature format. The findings also showed that the newspapers did not give prominence to the issues of maternal mortality and morbidity. The study finally recommends that newspapers should give prominence to maternal health issues and set the agenda that will call the attention of the reading public to such issues. It also recommends that the editors and reporters should undertake frequent in-house training in the areas of health communication in order to be aware of current information and knowledge on maternal health.

A similar research was conducted by Igbinoba (2011) which evaluated the reportage of maternal mortality in Nigeria. The focus of this study was to assess the role of the Nigerian Press in creating awareness and enlightening the public on maternal mortality. The study content analysed the *Punch*, *Guardian* and *the Nigerian Tribune* newspapers within 2009. The result revealed that 147 stories were reported on maternal health issues but were not projected in the form of editorials and interviews that would enhance the salience of the issue reported.

Another research was conducted by Odesanya, Hassan & Olaluwoye (2015) with the aim of knowing how the mass media have reported health issues in relation to women. The study showed that mass media have a role to play in raising awareness about issues that threatens the well-being of the people especially on maternal health care. The study also noted that the extent to which the mass media have been reporting on women and children health in Nigeria and other countries is not yet desirable. Therefore, in order to set the agenda for maternal health, the study recommends that the mass media organisations, health

agencies, institutes and mass media educators should collaborate to devise strategies on how best they can equip journalists with specialised knowledge and skills to enable them write articles on health problems.

Similarly, Adeniran&Koyede (2009) conducted a research in Lagos to examine newspaper coverage of the Millennium Development Goals. The study content analysed 'Punch' and 'Guardian' Newspapers over a period of six months. The study found out that 2.6% (592) of issues were reported about the MDGs in 'Punch' Newspaper out of the 22,750 stories published across 182 editions while 3.3% (830) of MDGs related issues were reported in 'Guardian' Newspaper out of 25,480 stories published across 182 editions. This shows that Millennium Development Goals in relation to maternal health have the least coverage by the two Nigerian Newspapers. The study recommends that the mass media should pay more attention to the under reported issues on maternal health.

Furthermore, a study was conducted in Ondo State by Odozi&Nyam (2014) with the aim of identifying the attention paid to the issue of development by examining what is reported and how it is reported about MDG and related activities in the Nigeria press. The study adopted content analysis as the research methodology and analysed the Guardian, Punch and Nation newspapers from January 2010 to December 2012. The findings from the study showed that out of 864 newspapers sampled, only 610 copies of the newspapers contained stories about MDG. The study also revealed that most of the stories were found inside the pages of the newspaper with 73%, followed by the front page with 15% and editorial pages with 5%. This shows that the straight news was higher than the interpretative/in-depth format. Also, in terms of MDG goal attraction to the press, environmental sustainability and eradication of poverty was higher than the gender equality and empowerment.

Though the above studies revealed were extensively researched but most of the studies conducted were undertaken within a shorter period of time, in most cases only a few months (for instance, the studies conducted by *Adenia&Koyede, 2009; Ogbonna, 2016; Davidson & Wallack, 2014; Odoemelam et al 2014.*) except for *Torwel& Rodney (2010), Okpoko and Aniwada, (2017)* who examined two years of coverage in their study. There is no doubt that time span is an important factor in health communication studies. This is to enable a study to be generalized as well as used as an index for policy formulation, such study must be seen to have covered a sizeable number of time frame which gives credence to any health communication study.

2.8 Theoretical Framework

The study adopts the agenda setting theory as its theoretical framework. The Agenda-Setting Theory is the framework for explaining the coverage of sickle cell disease in the Nigerian Newspapers. Agenda setting theory was first developed by Maxwell, McCombs and Donald Shaw in a study on the 1968 American Presidential Election. The use of media to deal with public health issue is an important aspect of coverage. It is obvious that the selection of news stories is well organised as an agenda setting function of the media and they serve as the forum for the consideration and presentation of health issues. Therefore, the media is regarded as a powerful mechanism to promote and educate the public on health issues (Holder & Treno, 1997; cited in Rodney, 2010).

Agenda setting theory also describes the ability of the news media to influence the salience of topics on the public agenda. Folarin (2002), adds that the element involved in the agenda setting include the quantity or frequency of reporting, prominence given to the report through headline display, pictures and layout in newspapers, magazines, film, graphics or timing on radio and television; the degree of conflict generated in the reports; and cumulative media specific effects overtime. Previous research has provided sufficient evidence that mass

media have the power to select and “pack” the events, thus to influence the way the audience/readers perceive the surrounding reality (De Vresse, 2007; cited in Odoemelam, 2013). This simply means that if a news item is covered frequently and prominently, the audience will regard the issues as more important. This implies that the more frequent and prominent the media covers issues of sickle cell disease, the more the audience becomes aware of the disease and they tend to allocate more importance to the issue that has been extensively covered by the media.

According to McQuail (2005:426), Agenda setting is a process by which the relative attention given to items in news coverage influences the rank order of public awareness of issues and attribution of significance. It assumes that the more the media gives attention on a particular issue, the greater the importance attributed to that issue by the audience. Media exposure of health issues either through news, features, editorials, opinion etc will help to expand the audience scope of knowledge about the issue. The media can achieve this by choosing what story to consider as very important or newsworthy by according prominence to such issue.

According to Baran & Davis (2009), Agenda setting theory establishes that there is an important relationship between media reports and people’s ranking of public issues. The theory explains the correlation between the rate at which the media cover a story and the extent that people think that story is important. Therefore, it is understood that how a person acts is determined by what issue the individual believes is important.

The two basic assumptions of this theory is that:

- i. The press and the media do not reflect reality; they filter and shape it.
- ii. Media concentration on a few issues and subjects leads the public to perceive those issues as more important than other issues.

These assumptions are reflected in how the media operate when they create public awareness of salient issues. In addition, different media have different agenda-setting potential. The media decides where, within the newspaper, the story of the day should appear. Some of the stories may appear on the front page and have large headlines and others which seem less important could have smaller headlines, short and sharp without accompanying photograph. Newspapers provide a host of cues about the salience of the topic in daily news, lead stories on page one, how it has been displayed through the use of large headlines etc. (Oladunde&Ajibola, 2009).

Despite the criticism of the agenda setting theory, the theory has some practical relevance in the way and manner in which the media covers issues, especially those related to health issues.

The agenda setting theory allows us to study the kind of prominence the media gives to a particular issue. This makes us understand how ‘Daily Trust’ and ‘Vanguard’ newspapers cover issues related to sickle cell disease. The media has the ability to influence our decision about sickle cell disease by making us understand the consequence involved when we take the wrong decision. The way the media prioritise issues and events by giving prominence to some issues over others, thereby setting agenda for public discussion (Weiss, 2009). Prominence given to the report through headline and pictures displayed on the newspapers will capture the attention of the people to read the article published. Media capture of sickle cell disease either through news, features or opinions may help to expand the audience scope of awareness about the epidemic. The media can achieve this by choosing the stories to consider important or news worthy by according prominence to the report. Information is therefore fundamental for prevention behaviour but many of those at risk, significantly lack access to quality and relevant information (Okidu, 2013). The prominence

the media gives to the coverage of sickle cell disease by the Nigerian press can influence the extent of importance people will place on such issue which can determine their reaction.

The agenda setting theory allows the media to concentrate on few issues thereby leading to report appearing frequently or not reported frequently. The media has the ability to frequently report issues on sickle cell disease. When such health issues are reported frequently, it creates awareness of the epidemic, attracts the attention of the public and makes the audience conscious of the happenings around them. This can help to shape the way people act and react towards the health messages. The media also decides where, within the newspaper the stories of the day should appear. Some stories may appear on the front page, inside page and central page which will determine the importance of the report. One of the key functions of the media in any society is health communication. The media are veritable source of information; they create awareness and mobilize members of the public to cooperate with health authorities in the fight against an epidemic at a given time (Onyeizu&Oloyede, 2014).

It is now clear that through the agenda setting function of the media, the media set the stage for public discourse and ascribe importance to an issue through: the frequency of reporting, prominence given to the issue, degree of importance generated from the report and the specific effect over time of the report (Ate, 2008).

CHAPTER THREE METHODOLOGY

3.1 Introduction

This chapter refers to the various methods and procedures used in carrying out the research. The viability of any study is dependent on how scientific the methods are. Therefore, this chapter focuses on discussing the methodology used in carrying out the study.

3.2 Research Design

The research method selected for this study is quantitative content analysis. Content Analysis is generally described as a structured method which is based on the principles of social science of measuring and counting of media contents (Zeh, 2005). The content analysis method avails itself to the examination of media contents and coverage. It is also referred to as a method of communication research for analysing media contents. Scholars like Ukonu, (2012); Okorie & Oyedepo, (2011); Dickson, Dikeocha & Rotimi (2014) have used the content analysis method to investigate the patterns in media coverage of political, economic and agricultural issues in Nigeria.

According to Babbie, (2005, P. 328) content analysis is “the study of recorded human communication such as books, website, paintings and laws”. Rubin, Alan, Haridakis & Piale (2010, P. 215) explain that “content analysis is a procedure that helps researchers identify themes and relevant issues often contained in media messages.” The methodological approach is consistent with many similar researches. Adesoji *et al* (2016) for instance, carried out content analysis of *Ebola* virus disease outbreak in Nigeria. Similarly, Odoemelam *et al* (2014) content analysed *Daily Sun* and *Guardian* newspapers on the coverage of *HIV/AIDS*. This shows that content analysis is a method that is widely used by researchers. This study therefore, has made use of content analysis to study the coverage of sickle cell disease in some Nigerian newspapers.

In this study, the emergent coding or deductive approach was used with the content categories. Deductive coding approach involves predefining certain frames as content analytic variables to verify the extent to which these frames occur in the news (Semetko&Valckenburg, 2000; Ryabinska, 2007). Using deductive approach, frames that are not defined a priori may be overlooked. This approach can help researcher detect differences in framing between and within media.

3.3 Content Universe

In research, universe is the same as population. In this study, being a content analysis research, the universe or population, like in other types of study, constitutes the total number of news, articles and any other item for measurement in a study. Bhattacharjee (2012), defines population as all people or items (units of analysis) with the characteristics that one wishes to study. The unit of analysis of a population in any study may be a person, group, organization, country, object or any other entity that one wishes to draw scientific inference about.

Therefore, the Monday to Sunday editions of *Guardian, Vanguard, Daily Trust* and *Punch* newspaper from January 2016 to December 2018 make up the universe of this study.

3.4 Sampling Technique

The random sampling technique was adopted for this study. The simple random sampling of balloting was used to choose which newspaper among the Nigeria newspapers that have national circulation. This was done to ensure that the newspapers, irrespective of ownership / place of publication had equal chances of being selected. The national newspapers on which the sampling technique was subjected among all the Nigerian newspapers are: Daily Times, The Nation, Vanguard, Leadership, Daily Trust, Tribune, Punch, This Day, Daily Independent, Guardian, Blue Print, People's Daily, Business Day, Daily Sun, Observer, Daily Champion. At the end of applying the simple random sampling of balloting, *Guardian, Vanguard, Daily Trust* and *Punch* newspapers were selected.

3.5 Census

A census size is known as a complete enumeration, which means using all the population. It is a study of every unit, everyone or everything in the population (Australian Bureau of Statistics, 2016). Similarly, Wimmer & Dominick (2011) refer to census as the process of examining every member in a population. Census provides a true measurement of the population (no sampling error) from which a benchmark data may be obtained for future studies, and detailed information about small sub-group within the population is more likely to be available (Australian Bureau of Statistics, 2016). Therefore, census was adopted in studying all the newspaper editions within the study period. This will give the researcher the exact units of data as far as sickle cell disease coverage is concerned.

3.6 Units of Analysis

This constitutes the single unit on which descriptive and explanatory statements are made. It is the actual thing counted when seen in content analysis. In a study, unit of analysis is the level of abstraction at which the researcher looks for variability. It varies according to the data and purpose of research and might be a single word, a letter, a symbol, a theme (a single assertion about one subject), a news story, a character, an entire article or an entire film or a piece of programme (Prasad, 2008).

The unit of analysis for this study is the Article. This is because it is a form of journalistic writing used in media practice to disseminate different information including health information to the public. The articles include opinions, columns, features, news stories, editorials etc

3.7 Content Coding Categories

Content categories usually deal with “what is being said” or “how it is said” (Texas, cited in Ozohu-Suleiman, 2013, P.84). The essence of categories is to develop classification

that would efficiently yield the data needed to reveal how the media frame an issue (Prasad, 2008). The three basic criteria for developing content categories include:

- i. Content categories must be operationally defined.
- ii. They must be exhaustive so that all units to be examined can fit into the appropriate categories.
- iii. They must be mutually exclusive. This means that the categories must be unambiguously coded in such that they are independent of one another. The reason is to ensure that a unit of analysis is coded into one and only one category.

In content analysis studies, prior categories are used to measure media coverage of various phenomena (Wimmer and Dominick, 2012). From the unit of analysis mentioned above, the content categories for this study include:

- a) **Sources of information:** This involves who or where the newspapers got the information they published on the disease. It shows the major agencies and personalities behind the sources of information which could be World Health Organisation (WHO), Ministry of health, Non-Governmental Organisation (NGO), Medical experts and Victims/Patients e.t.c. it also shows the various forms in which these news stories are reported. It could be through press release, coverage, in-house publication, and interview.
- b) **Position of the story:** This show the type of page where the report is placed. Thus, prominence can be verified through the following formats:
 - i. Front page (most prominent)
 - ii. Inside page (less prominent)
 - iii. Back page (prominent)
- c) **Direction of coverage:** This involves the focus in which such story is rendered. The indices for identifying direction of coverage include causes, effect and prevention.

- i. Causes- This can be identified when the story of sickle cell disease is focused on the causes of the disease, origin, mode of transmission, signs and symptoms.
 - ii. Effect- This can be identified when the reports of the story on sickle cell disease raises tension as a result of the number of infected cases as well as rise in mortality rate. It is focused on the effect of the disease on the victim and the society at large.
 - iii. Prevention- This can be identified when the article provides information about preventive measures, treatment, vaccines and programmes.
- d) **Frequency:** This is defined in terms of news report, feature stories, editorials, column articles as the total number of occurrences of stories on the pages of a newspaper. This shows the number of times a sickle cell story appears.

3.8 Instrument for Data Collection

The instrument used for data collection was a self-designed code sheet to analyse the content of news stories in the editions of *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers. Coding sheet is an instrument for data collection that is a designed form of content categories in order to elicit data in a tally format which will be analysed. Data was obtained and recorded in a coding sheet designed by the researcher and the code sheet has segments of rows and columns where stories were counted and rated.

3.9 Method of Data Analysis

The data obtained were analysed using tables, simple percentage and the computer Statistical Package for the Social Sciences (SPSS) in an attempt to answer the research questions.

3.10 Reliability

To ensure reliability in the coding process and the data obtainable from such a process, careful training of coders was done. This intention is to realise a more reliable analysis as was suggested by Wimmer & Dominick (2012, P.167). The training ensure that the

coders were thoroughly familiar with the study's mechanics and peculiarities. Inter-coder reliability is a fundamental characteristic of content analysis and it is known as the term used to understand the extent to which independent coders evaluate characteristics of a message in order to reach the same conclusion (Lombard, Synder-Duch & Bracken, 2002). In content analysis studies, one of the common methods of measuring reliability is to measure the degree of agreement in percentage term between coders or raters. This approach sums up the number of cases coded in the same way by two different coders and divides it by the number of cases (Stemler, 2001).

It has been given that it is not generally accepted for a single researcher to perform the task of coding in content analysis studies to avoid subjective judgement (Oleinik, Popova, Kidina & Shatalova, 2014). Nuendorf, (2002) suggests that when human coding is employed, inter-coder reliability is necessary and essential for valid and useful research.

In this study, the researcher employed the use of Cohen's Kappa to calculate the degree of agreement between the researcher and the research assistant in the coding exercise in order to determine the reliability of the data. Cohen's Kappa is specifically designed to measure the level of agreement between the two coders and it is recommended by many researchers (Lombard, Synder-Duch & Bracken, 2010). It was chosen to calculate the inter-coder reliability because it accounts for agreement that is expected to occur by chance (Murphy & Ciszewska-Carr, 2005).

The coding for this research was carried out by two independent coders: the researcher and one research assistant. The researcher adopted Landis and Koch (1977) benchmark for interpreting Cohen's Kappa.

Cohen's Kappa	Strength of Agreement
<0.00	Poor
0.00-0.20	Slight

0.21-0.40	Fair
0.41-0.60	Moderate
0.61-0.80	Substantial
0.81-1.00	Almost perfect

Furthermore, 5 percent of the entire population was used in testing the reliability of the instrument. Thus, the result of inter coder reliability test across these variables are as follows.

Variable	Cohen's Kappa
Frequency of Sickle cell	0.63
Prominence	0.71
Direction of report	0.60
Sources of stories	0.85

The instrument used for this study is valid. In other words, it comprehensively collected all the information needed to address the objectives of this study. Also, it consistently measured what it intends to measure.

CHAPTER FOUR DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents and discusses the findings from content analysis of the four selected national newspapers – *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers. Table of simple frequency count and percentages was used for presentation

of data. The Statistical Package for Social Sciences (SPSS) was used to analyse the quantitative data following the research questions outlined for the study. The analysis of data was descriptive and discursive in nature.

4.2 Data Presentation and Analysis

The data presentation and analysis was based on the computer statistical software programme i.e. Statistical Package for Social Sciences (SPSS). The table presents the result of the analysis of the data gathered.

Table 1: Table showing the total number of stories of sickle cell disease per Newspaper

Newspaper	Frequency	Percentage
<i>Guardian</i>	38	18.7
<i>Vanguard</i>	67	33.0
<i>Daily Trust</i>	50	24.6
<i>Punch</i>	48	23.6
Total	203	100

Source: Content Analysis 2018

The frequency of newspaper reportage, as presented in table 1 reveals the total number of sickle cell stories per newspaper used for the study. Out of the total population studied (4,380), only 203 of the news stories reported on sickle cell disease. This implies that sickle cell disease coverage was significantly low and were not given high priority by the four newspaper. From the frequency count, the result shows that *Vanguard* newspaper recorded the highest number of stories than the other three newspapers. This indicate that the four newspaper pay attention to sickle cell disease stories in their report.

Table 2: Cross tabulation showing the frequency of reports of sickle cell disease within the period studied.

Year	Newspaper name				Total
	<i>Guardian</i>	<i>Vanguard</i>	<i>Daily Trust</i>	<i>Punch</i>	
2016	14(36.8%)	14(20.9%)	12(24.0%)	8(16.7%)	48(23.6%)
2017	14(36.8%)	25(37.3%)	13(26.0%)	27(56.2%)	79(38.9%)
2018	10(26.3%)	28(41.8%)	25(50.0%)	13(27.1%)	76(37.4%)
Total	38(100.0%)	67(100.0%)	50(100.0%)	48(100.0%)	203(100.0%)

Source: Content Analysis 2018

Table 2 shows that the frequency of report of sickle cell disease stories across the newspapers within the period of study. The *Guardian* Newspaper has the highest occurrence in 2016 while *Punch* newspaper has the least number of stories. The result in the table also shows that *Punch* newspaper had the highest occurrence of sickle cell stories while *Daily Trust* has the least occurrence in 2017. Furthermore, *Daily Trust* has the highest frequency of report in the year 2018 while *Guardian* has the least report. On the average, sickle cell reportage by the newspapers stand below 50%. This implies that the phenomenon is grossly under reported by the newspapers under review.

Table 3: Table showing the Position of sickle cell disease stories reported in the Newspapers

Prominence	Newspaper name				Total
	<i>Guardian</i>	<i>Vanguard</i>	<i>Daily Trust</i>	<i>Punch</i>	
Front page	1(2.6%)	0(0.0%)	1(2.0%)	0(0.0%)	2(1.0%)
Inside page	37(97.4%)	67(100.0%)	49(98.0%)	48(100.0%)	201(99.0%)
Back page	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Total	38(100.0%)	67(100.0%)	50(100.0%)	48(100.0%)	203(100.0%)

Source: Content Analysis 2018

Table 3 shows the position of sickle cell disease stories reported in the newspapers selected. The result shows the prominence given to the news stories on the front page, inside pages and the back page. The table indicates that inside pages has more stories on sickle cell disease with 99.0% than the front page (1.0%) of the newspapers. In the table, it is observed that report on sickle cell disease was not given adequate prominence going by the serious nature or negative impacts of the disease in today's world. This suggests that stories on sickle cell disease were placed inside the pages of the newspapers which might not attract adequate readership attention.

Table 4: Cross tabulation showing the direction of report of sickle cell disease by the four newspapers

Direction of Report	Newspaper name				Total
	<i>Guardian</i>	<i>Vanguard</i>	<i>Daily Trust</i>	<i>Punch</i>	
Causes	8(21.1%)	26(38.8%)	16(32.0%)	9(18.8%)	59(29.1%)
Effect	16(42.1%)	18(26.9%)	16(32.0%)	23(47.9%)	73(36.0%)
Prevention	14(36.8%)	23(34.3%)	18(36.0%)	16(33.3%)	71(35.0%)
Total	38(100.0%)	67(100.0%)	50(100.0%)	48(100.0%)	203(100.0%)

Source: Content Analysis 2018

Table 4 displays the direction the selected newspapers reported Sickle Cell Disease. Cross tabulation analysis performed on direction of report of sickle cell disease by the four newspapers revealed that the report on news stories on the causes of sickle cell in *Vanguard* Newspaper has the highest report with 38.8% compared to the *Punch* newspaper which had the least stories recorded with 18.8%. This implies that the stories reported by the newspapers centred on how sickle cell disease can be genetically transmitted.

In relation to the effect of sickle disease, the report was relatively high in *Punch* newspaper with 47.9% while for the prevention of sickle cell disease the frequency of coverage between *Guardian* and *Daily Trust* was close with 36.8% and 36.0% respectively. This indicates that the newspapers made considerable efforts at educating the public on how to prevent the spread of the disease.

Table 5: Table showing the forms of reports of sickle cell disease stories per Newspaper

Sources of Stories	Newspaper name				Total
	<i>Guardian</i>	<i>Vanguard</i>	<i>Daily Trust</i>	<i>Punch</i>	
Press Release	2(28.6%)	3(20.0%)	2(25.0%)	5(33.3%)	12(26.7%)
Interview	4(57.1%)	4(26.7%)	5(62.5%)	4(26.7%)	17(37.8%)
In-house Column Publication	1(14.3%)	8(53.3%)	1(12.5%)	6(40.0%)	16(35.6%)
Total	7(100.0%)	15(100.0%)	8(100.0%)	15(100.0%)	45(100.0%)

Source: Content Analysis 2018

The data in table 5 shows that interview was the most frequent form of report on sickle cell stories with total frequency of 37.8% followed closely by in-house column publication with 35.6% and press releases with a total frequency of 26.7%. This implies that media houses get information when there is a major activity occurring about the specific issue (for instance; celebration of the World Sickle Cell Day). This indicates that most news reports covered by the newspapers were statements made by interviewees, research reports from researchers into sickle cell or columnist initiatives since the media practitioners are very much aware of the disease and have the ability to communicate this message well.

Table 6: Table showing the major sources of sickle cell disease stories

Major Agencies and personalities	Newspaper name				Total
	<i>Guardian</i>	<i>Vanguard</i>	<i>Daily Trust</i>	<i>Punch</i>	
Medical Expert	9(32.1%)	15(33.3%)	6(24.0%)	6(25.0%)	36(29.5%)
WHO	4(14.3%)	5(11.1%)	1(4.0%)	1(4.2%)	11(9.0%)
NGO	9(32.1%)	13(28.9%)	11(44.0%)	5(20.8%)	38(31.1%)
Ministry of Health	2(7.1%)	3(6.7%)	5(20.0%)	1(4.2%)	11(9.0%)
Victims	4(14.3%)	9(20.0%)	2(8.0%)	11(45.8%)	26(21.3%)
Total	28(100.0%)	45(100.0%)	25(100.0%)	24(100.0%)	122(100.0%)

Source: Content Analysis 2018

Table 6 shows that the major sources behind sickle cell stories were Non-Governmental Organisations (NGOs), World Health Organisation (WHO) and the Ministry of Health. This implies that journalists rely on official sources and official definition of

situation in order to add value to their news stories. The major personalities behind the sources of stories generated were medical experts and victims. This indicates that information from medical experts add credence to the news story while stories from victims are opinionated.

4.3 Discussion of Findings

This research was guided by four research objectives from which four research questions were formulated. Hence, this section looks at the research questions and how they were answered following the data earlier presented.

Research question one sought to find out the frequency of coverage of Sickle Cell disease by *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers in Nigeria. In relation to this question, the findings of this study, as presented in table 1 show that the total number of the stories coded and analysed is 203 stories. This is an indication that the extent of newspaper coverage of sickle cell disease is low. This finding is based on the fact that the period of three years (January 2016-December 2018) covered in this analysis, spreading across four national newspapers (*Guardian*, *Vanguard*, *Daily Trust* and *Punch*) should have received more volume of coverage. In terms of specific coverage by the newspapers, the *Vanguard* covered sickle cell more than the other newspapers with 33.0% (n=67) and followed closely by *Daily Trust* with 24.6% (n=50). Also, the result showed that *Guardian* covered sickle cell stories with 18.7% (n=38) and *Punch* newspaper with 23.6% (n=48) respectively. The findings contradict another health communication study conducted by Odoemelam *et al* (2014) which was aimed at ascertaining the frequency of coverage of HIV/AIDS. The result from the study shows that 'Guardian' newspaper carried the highest number of stories (77.6%) than 'Daily Sun' (22.4%). This is similar with the findings of a study by Torwel & Rodney (2010) which revealed that 'Guardian' newspaper published the highest number of articles on health and the result further showed that HIV/AIDS was

mentioned in most articles than other health related issues like cancer, reproductive health etc. This finding is in support of another study conducted by Onyeizu&Oyelede (2014) in a study of newspaper coverage of health issues in Nigeria over a 24-month period found out the single health issue that garnered most media attention is HIV/AIDS. Based on the above, it can be seen that HIV/AIDS have received more coverages and have gained more media attention than sickle cell disease by the Nigerian National newspapers. Yopp and Haller (2005) have suggested that when a problem is of a great magnitude and impact, it attract media attention. In the circumstance of sickle cell disease in Nigeria, this is not the case. It is true that HIV/AIDS situation in Nigeria is severe, but it is also true that many people are likely to suffer from sickle cell disease than HIV/AIDS.

Based on the result in table 2, it can be said that the frequency of coverage by the newspapers relating to sickle cell issues is low. However, the coverage of sickle cell in *Punch* newspaper in 2017 is relatively higher than other reports collated across the period of study (January 2016 to December 2018). This implies that *Punch* newspaper in the year 2017 has 56.2% news stories recorded than the other newspapers examined in this study. Also, the findings from the study revealed that the *Guardian* newspaper had the highest frequency (36.8%) of sickle cell stories in the year 2016 while *Daily Trust* recorded the highest frequency (50.0%) of sickle cell stories in 2018. This indicates that there was low level reportage of sickle cell disease stories by the four selected newspapers studied across the duration of three years. The above finding is clearly in agreement with the findings of Abubakar *etal* (2013) which shows that there was low level of coverage of maternal health related issues in the two magazines studied (*Tell and The News*). In another similar study by Okoro *et al* (2015) showed that there was scanty coverage of National programmes on immunization by the newspapers studied (*Guardian, ThisDay and Sun*). This may suggest that Nigerian media are influenced in their coverage by the period of an outbreak.

Research question two focused on finding out the prominence given to sickle cell disease by the selected Nigerian newspapers. The data in table 3 is used to answer this research question. The data shows that the four newspapers (*Guardian, Vanguard, Daily Trust and Punch*) placed sickle cell disease reports on the less prominent pages in their respective newspaper editions. In respect to the position of stories, this study found that only 1.0% (n=2) of the entire 203 stories devoted to the coverage of sickle cell were located on the front page. This finding shows that the four newspapers did not give prominence in their coverage by means of placement. This implies that sickle cell disease did not attract the attention of the newspapers as much as issues like politics, crime, religion etc that were given front page coverage in the newspapers. This data further indicated the low level of prominence which was accorded to the coverage of sickle cell disease by the selected publications as most of the reports (99%) appeared on the inside pages of the newspapers.

This finding correlates with the study conducted by Okpoko & Aniwada (2017) on the coverage of hypertension which shows that the newspapers studied; *Guardian, This Day and Vanguard* reported no stories on the front and back pages but had their stories on the inside pages of the newspapers. Also, in a study conducted by Uwom (2014), it is reported that the newspapers used in the study did not give prominence to health issues by way of placement and space allocation. On the contrary, Ogbonna (2016) reported in a study that Ebola virus disease was given significant coverage and stories received prominence in terms of story type but not in the aspect of page placement. In line with a study by Daniel & Alawari (2016) revealed that there were more front page news stories on Ebola virus covered by the 'Guardian' newspapers. Similarly, Adesoji *et al* (2016) findings revealed that the two newspapers studied (Nigerian Tribune and Punch) gave prominence to Ebola stories on the front page of the newspapers. This contrast could be as a result of the fact that Ebola outbreak in many parts of the world was given high level prominence because of the great immediate

danger posed by the disease. It is seen that the mass media have given adequate attention to the issue of Ebola virus disease owing to its coverage on the cover page as well as lead stories.

However, Onyeizu&Oloyede (2014) result showed that placement of reports on health issues were on the front page but were not the major lead. Also, the headlines were on the front page but the stories were on the inside pages of the newspapers which is contrary to the above findings of the health communication studies reviewed. Therefore, for stories to appear on the inside pages of the newspapers indicates that it carries less possible impact on the readers. Scheufele&Tewsbury (2007: 12) note that “the way a news item is presented can have an influence on how it is interpreted and understood by the audience.

Particular concern is expressed on how news stories are placed, either presented with an imposing banner to get stay public attention and sympathy or tucked inside the newspaper for an interested reader to find”. The findings from *Guardian* newspaper was 2.6% (n=1) for the front page and 97.4% (n=37) for the inside pages. In respect to the *Vanguard* newspaper, the findings showed that the front page had no stories on sickle cell disease and recorded 100% (n=67) for the inside pages. *Daily Trust* newspaper reported 2.0% (n=1) for the front page and 98.0% (n=49) for the inside pages, while *Punch* newspaper recorded 0% for front page and 100% (n=48) for inside pages. Furthermore, no stories on sickle cell disease were found on the back pages of all the newspapers studied. This implies that the reports were not given prominent coverage throughout the newspapers in both front and inside page. This is based on the fact that health stories are positioned on dedicated health pages in the newspaper’s editions. It can also be deduced that that the newspapers did not attach much importance to stories on Sickle Cell disease. Considering the significance of the health issue, the print media is expected to give more coverage and prominence to the phenomenon so as to educate the general public adequately. However, this is not the case as majority of the

stories (99.0%) in the newspapers are positioned at different pages within the inside pages of the publication. This is a reflection of the pattern of newspaper coverage of health issues in Nigeria whereby health issues are mostly restricted to their designated health pages on specific days of the week.

Research question three sought to find out the direction of reportage of sickle cell disease in *Guardian*, *Vanguard*, *Daily Trust* and *Punch* newspapers. Findings from the study reveal that 29.1% (n=59) of the total news stories were reported on the causes of sickle cell, 36.0% (n=73) on the effect while 35.0% (n=71) was reported on the prevention. This was revealed in table 4. The implication of this finding is that the media have reported the issue extensively in order to enlighten the public about the ailment and this may bring appropriate attention in mitigating the spread of the disease. This is in line with the study conducted by Davidson *et al* (2004) whose findings reveal that 19% of the articles on sexually transmitted (STD) disease mentioned the causes, consequences, prevention and treatment of STDs. Similarly, another study conducted by Diedong (2013) revealed that 154 news articles were published regarding health issue in Ghana and the disease discussed were according to the symptoms, treatment and recommendation for healthy lifestyle practices.

The data from this study also revealed that reports on the prevention of Sickle cell had the highest frequency of 36.8% in *Guardian*, followed closely by 36.0% in *Daily Trust* followed by 34.3% in *Vanguard* and 33.3% in *Punch* newspapers as revealed in table 4. Similarly, another health communication study by Opemipo & Koblawe (2013), agrees with the findings of this research. This study revealed that malaria prevention had the highest frequency of 65.2% in *Punch* and 45.5% in *Nigeria Tribune* while reports on malaria treatment had the least of 5.3% in the two newspapers.

However, the data as revealed in table 4 also showed that the causes of sickle cell had the least report with 18.8% in *Punch*, 21.1% in *Guardian*, 32.0% in *Daily Trust* and 38.8% in

Vanguard newspapers. Further, the findings for the effect of sickle cell as revealed in table 4 had the highest frequency of reports in the *Punch* newspaper with 47.9% followed closely by *Guardian* newspaper with 42.1%, followed by *Daily Trust* with 33.0% and *Vanguard* newspaper with 26.9% respectively. The report on the effect of sickle cell is centred on the continuous discomfort people living with such disease go through alongside their family members.

Research question four centred on finding out the sources of information on the disease reported in the selected Nigerian newspapers. The data in table 5 are used to answer this research question. The data show that most media reports were transmitted primarily through interview, with a frequency of 62.5% in *Daily Trust*, followed by 57.1% in *Guardian*, and 26.7% in *Punch* and *Vanguard* newspapers respectively. This suggests a strong relationship with the views expressed by the interviewees in the course of sourcing for information on sickle cell disease especially on the causes, symptoms, effect, prevention as well as the correct diet to prevent sickle cell crisis.

Data presented in table 6 revealed that the major agencies and personalities from which sickle cell reports emanated from in the selected publications are: NGOs, with 31.1% followed by medical experts with 29.5%. This shows that journalists rely heavily on official sources to add credibility to a story, to increase the efficiency of news production and to maintain objectivity. This simply means that medical experts could use the appropriate medical frames to provide all the necessary information for the readers. Therefore, reporters give credence to information from medical practitioners because people will believe the opinion of a medical expert on health matters more than that of a reporter who might not be a professional in that area. This is in line with Baran & Davis (2009) and Uwom & Oloyede (2014), when they note that health measures advocated by medical experts through media reports could influence opinions and behaviours of the people. The newspaper stories would

have contributed to creating awareness and influencing people to quickly adopt specified preventive measures which in the long run will help to stop further spread of the disease.

The data in table 5 further revealed that the World Health Organisation (WHO) and the Ministry of Health were also sources of stories on Sickle Cell disease with a total frequency of 9.0% while victims/patients had the total frequency of 21.3%. This implies that government substantially collaborates with health experts and organisations like WHO to provide public awareness about health issues through newspapers reports.

Relating the findings of this study to the basic assumptions of the theory shows that, newspapers in Nigeria still have a long way to go with regards to setting agenda on Sickle Cell disease as part of its social responsibility function. One of the basic assumptions of the theory is media concentration on a few issues leads the public to passive those issues as more important than other issues. The theory holds that the importance of an issue is indicated through its headlines or page placement in the newspapers and this would be accordingly be regarded as important to the audience or readers. This finding therefore shows that 99% of articles on sickle cell disease were found on the inside pages of the newspapers, 1% were on the front page and no stories at the back page of the newspapers studied. The non-placement of sickle cell disease stories on the front and back pages of the newspapers strongly suggest that the newspapers may not have considered sickle cell disease story a priority to the society. This shows that the newspapers involved in this study failed to set the agenda for public discussion on the issue of sickle cell disease thus failing to raise issues for both the government and the public. This further indicates that *Guardian, Vanguard, Daily Trust* and *Punch* newspapers did not pay attention to the issue of sickle cell disease during the period investigated (2016-2018) and being an issue that affects millions of individuals.

Part of the indicators of media awareness creation is the frequency of report accorded to the coverage of a particular phenomenon which is one of the fundamental components of

Agenda Setting Theory. Based on the findings of this study, it shows that sickle cell disease appeared only 203 times by the four newspapers studied (*vanguard, Guardian, Punch and Daily Trust*) within three years (2016-2018). This clearly shows that the frequency of report on sickle cell disease was low. This implies that there was low coverage of the disease hence; the media have not done enough to fulfil their Agenda Setting role to the Nigerian public.

The Agenda setting function of the media suggest that the frequent selection and the prominent display of news stories on sickle cell disease will provoke public discussion which may invariably influence government to align its health policies as appropriate. Therefore, there is need for extra effort by the media in setting agenda for National discourse about sickle cell disease in order to provide effective solutions for the issue. It is also important that the media intensify its reportage of sickle cell disease since they are the sources of information.

CHAPTER FIVE SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusion and recommendations based on the findings from the study. It subsequently suggests areas for further studies.

5.2 Summary of the Study

The study was conducted in order to find out the media coverage of Sickle Cell disease by some national newspapers in Nigeria between 2016 and 2018. In order to know the possible answer to the stated research questions aimed at realising the research objectives, related literature was reviewed. It was discovered that the media cover health related matters that are detrimental to the society. Hence, the media try to fulfil their social responsibility role by educating the public about the danger and provide information that will be beneficial to the general public for healthy living.

In addition, Agenda Setting theory was used as the theoretical guide for the study. This theory was found to be suitable for this study because the study sets out to find out how well the media i.e. print media sets the agenda about the existence, causes and prevention of sickle cell disease in the society. The theory is responsible for the media to set agenda for the audience through the frequency of report and the prominence given to the report by placement. The power of the media to set a nation's agenda, to focus attention on few public issues, is an immense and documented influence. Not only do people acquire factual information about public affairs from the news media, society also learn how much importance to attach to a topic on the basis of emphasis placed on it in the news.

The study also adopted content analysis method of research and four newspapers were randomly selected through balloting method. Data were collected with the aid of code sheet as the research instrument. The whole editions of the population of *Guardian*, *Vanguard*,

Daily Trust and Punch newspapers were used for the study (Census method) starting from January 2016 to December 2018. The data collected were analysed with the aid of the Statistical Package for Social Sciences (SPSS).

The findings of the study revealed that a total of 203 news stories were covered by *Guardian, Vanguard, Daily Trust and Punch* newspapers on sickle cell disease. *Vanguard* newspaper had the highest coverage of news stories on sickle cell disease than the other selected newspapers. Likewise, *Guardian* newspaper got the highest frequency of news stories in 2016, *Punch* newspaper accorded more attention to sickle cell disease in 2017 while *Daily Trust* had the highest frequency of report in 2018.

The prominence of news stories was established by page placement of stories about the disease. This suggest that news stories placed on the front or back pages could be more prominent than those placed in the inside pages. Therefore, it is evidence that prominence was not given to the page placement of news stories in relation to sickle cell disease in the four selected newspapers since most of the news stories were placed in the inside pages of the newspapers. However, the *Vanguard* newspaper comparatively gave more prominence to news stories on sickle cell disease than the other newspapers selected.

In addition, report on the causes of sickle cell has the highest frequency in *Vanguard* newspaper and the least report was recorded in *Punch* newspaper while reports on sickle cell prevention was relatively higher in *Guardian*, than the other newspapers studied. Also, from the data gathered, the effect of sickle cell disease stories has more news stories about the disorder in the entire selected newspapers especially in *Punch* and *Guardian* newspaper.

Finally, the result from the study revealed that interview was the most frequent sources of information on sickle cell stories in *Daily Trust* than the other selected newspapers. The in-house column publication was another source used by the media in gathering information on sickle cell disease and was more pronounced in *Vanguard*

newspaper than the other newspapers studied while press release was also used by the media to source for information on sickle cell stories and had the highest frequency in *Punch* newspaper compared to the other newspaper selected.

In addition, the major agencies involved in reporting sickle cell disease stories were NGOs (Non- Governmental Organisations), WHO (World Health Organisation) and Ministry of Health. while the major personalities behind the stories generated by the media include the medical experts and victims.

5.3 Conclusion

Coverage of sickle cell disease issues were not accorded priority by the four newspapers studied during the period of 2016-2018. From the findings of this study, it can be concluded that the four newspapers studied; *Guardian, Vanguard, Daily Trust and Punch* reported on sickle cell disease but the extent of coverage is significantly low considering the nature of the issue involved.

In addition, this research work shows that prominence was not given to sickle cell stories as most news reports on sickle cell disease were more in the inside pages of the newspapers studied. Nevertheless, the *Vanguard* newspaper comparatively to other newspapers studied gave more prominence to news stories on sickle cell disease on the inside pages.

Furthermore, the direction of report centred on the news stories on the causes, effect and prevention of sickle cell disease. Newspapers used for this study (*Guardian, Vanguard, Daily Trust and Punch*) show that most reports on Sickle Cell disease prevention is majorly centred on campaign against intending couples with sickle cell prone genotypes. This, is aimed at preventing the occurrence of sickle cell disorder, creating adequate awareness at the grass root levels, screening and counselling to reduce the high rate of child mortality and

maternal morbidity in the nation as well as to implement new health strategies to completely eradicate the disease from the world.

Lastly, the newspaper houses mostly depend on experts and credible sources to get information for their publications. However, the major agencies from whom sickle cell information emanates include: World Health Organization (WHO), Non-Governmental Organisations (NGOs) and Ministry of Health.

The NGOs initiated programmes such as the Lender's Helping Hand programme, Red Umbrella Walk, Medical Insurance Scheme (for victims where all their medical needs are met free of charge), Free Genotype/ Blood Group Testing/ Screening. These activities help to prevent and control the disorder through information and education.

5.4. Recommendations

The following recommendations are made based on the findings emanating from the study:

- a) Newspapers in Nigeria should endeavour to give equal attention to health issues irrespective of the ailment in order to pay adequate attention to fulfilling their social responsibility mandate to the Nigerian society in the area of health education and awareness.
- b) Prominence should be given to sickle cell disease stories through page placement especially on the front and back pages of the newspapers to draw readers' attention to it. In this vein, promos of sickle cell stories can be placed on the front pages to direct reader's attention to where such stories are in the inside pages.
- c) Public health professionals should use media advocacy to increase the coverage of sickle cell disease. This will provide an opportunity for researchers, health care providers and community activists to increase the visibility of the issue on pages of national newspapers.

- d) In order to set agenda for sickle cell disease, media organisations, health agencies and institutes should collaborate to devise strategies on how best they can equip journalists with specialised knowledge and skills to enable them write articles on health matters in relation to sickle cell disease.

5.4 Contribution to Knowledge

So far, the outcome of this study has been able to clearly contribute to the body of knowledge in mass communication study in the following ways:

The study has shown that Nigerian newspapers used for the study had scanty reportage of sickle cell diseases within the period under review i.e. 2016-2018. The direction of stories dealt with in the content analysis focused majorly on causes, effects and prevention of the diseases. Prominence accorded sickle cell stories in the newspapers reviewed were low because most of the stories were found within the inside pages of the newspapers.

5.5 Suggestion for further studies

The following areas are suggested for further studies:

- i. There is a shortage of literature relating to press coverage of sickle cell disease. Thus, further researches should be carried out on this area to complement the existing ones.
- ii. This study was centred primarily on the reports of the four newspapers (*Guardian, Vanguard, Daily Trust and Punch*) alone, as such the findings of the study may not be applicable to other media outlets. Hence, a comparative analysis should be carried out between the print media and the electronic media in order to see the extent of coverage accorded to sickle cell disease.
- iii. Similarly, further studies should be done on the Awareness and Knowledge of newspaper reporters on sickle cell disease.
- iv. As the study focused on print media, there is need to study broadcast media in order to find out the rate of reportage of sickle cell disease in it.

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APPENDIX I: CODING SHEET

PAPER NAME -----

YEAR/MONTH-----

MEDIA COVERAGE OF SICKLE CELL DISEASE

PROMINENCE			
UNITS OF ANALYSIS (News Story, Editorials, Interview and Feature Article)			
DATES	FRONT PAGE	INSIDE PAGE	BACK PAGE
TOTAL			

PAPER NAME-----

YEAR/MONTH-----

SOURCES OF STORIES									
UNITS OF ANALYSIS (News Story, Editorials, Interview and Feature Article)									
DATES	PRESS RELEASE	INTERVIEW	MEDIA PUBLICATION	MEDICAL EXPERT	WHO	NGO	MINISTRY OF HEALTH	VICTIMS	NO SOURCE INDICATED
TOTAL									

APPENDIX 2: SUMMARY OF RESULT

```
FREQUENCIES VARIABLES=Papername
/ORDER=ANALYSIS.
```

		Paper name			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Guardian	38	18.7	18.7	18.7
	Vanguard	67	33.0	33.0	51.7
	Daily Trust	50	24.6	24.6	76.4
	Punch	48	23.6	23.6	100.0
	Total	203	100.0	100.0	

```
CROSSTABS
/TABLES=Years BY Papername
/FORMAT=AVALUE TABLES
/STATISTICS=CHISQ
/CELLS=COUNT COLUMN
/COUNT ROUND CELL.
```

Crosstabs

Years * Paper name Crosstabulation

			Paper name				Total
			Guardian	Vanguard	Daily Trust	Punch	
Years	2016	Count	14	14	12	8	48
		% within Paper name	36.8%	20.9%	24.0%	16.7%	23.6%
	2017	Count	14	25	13	27	79
		% within Paper name	36.8%	37.3%	26.0%	56.3%	38.9%
	2018	Count	10	28	25	13	76
		% within Paper name	26.3%	41.8%	50.0%	27.1%	37.4%
Total		Count	38	67	50	48	203
		% within Paper name	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.017 ^a	6	.020
Likelihood Ratio	14.644	6	.023
Linear-by-Linear Association	1.107	1	.293
N of Valid Cases	203		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.99.

CROSSTABS

```

/TABLES=Prominence DirectionofReport SourcesofStories BY Papername
/FORMAT=AVALUE TABLES
/STATISTICS=CHISQ
/CELLS=COUNT COLUMN
/COUNT ROUND CELL.
    
```

Prominence * Paper name

Crosstab

			Paper name				Total
			Guardian	Vanguard	Daily Trust	Punch	
Prominence	Front page	Count	1	0	1	0	2
		% within Paper name	5.0%	0.0%	4.2%	0.0%	2.0%
	Inside page	Count	19	31	23	26	99
		% within Paper name	95.0%	100.0%	95.8%	100.0%	98.0%
Total	Count	20	31	24	26	101	
	% within Paper name	100.0%	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.682 ^a	3	.443
Likelihood Ratio	3.394	3	.335
Linear-by-Linear Association	.536	1	.464
N of Valid Cases	101		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .40.

Direction of Report * Paper name

Crosstab

			Paper name				Total
			Guardian	Vanguard	Daily Trust	Punch	
Direction of Report	Causes	Count	7	16	9	7	39
		% within Paper name	23.3%	28.1%	25.0%	20.0%	24.7%
	Effect	Count	9	18	9	12	48
		% within Paper name	30.0%	31.6%	25.0%	34.3%	30.4%
	Prevention	Count	14	23	18	16	71
		% within Paper name	46.7%	40.4%	50.0%	45.7%	44.9%
Total	Count	30	57	36	35	158	
	% within Paper name	100.0%	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.643 ^a	6	.949
Likelihood Ratio	1.671	6	.947
Linear-by-Linear Association	.190	1	.663
N of Valid Cases	158		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.41.

Sources of Stories * Paper name Crosstabulation

			Paper name				Total
			Guardian	Vanguard	Daily Trust	Punch	
Sources of Stories	Press Release	Count	2	3	2	5	12
		% within Paper name	28.6%	20.0%	25.0%	33.3%	26.7%
	Interview	Count	4	4	5	4	17
		% within Paper name	57.1%	26.7%	62.5%	26.7%	37.8%
	Media Publication	Count	1	8	1	6	16
		% within Paper name	14.3%	53.3%	12.5%	40.0%	35.6%
Total	Count	7	15	8	15	45	
	% within Paper name	100.0%	100.0%	100.0%	100.0%	100.0%	

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.991 ^a	6	.322
Likelihood Ratio	7.282	6	.296
Linear-by-Linear Association	.017	1	.896
N of Valid Cases	45		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is 1.87.

Sources of Stories * Paper name Crosstabulation

			Paper name				Total
			Guardian	Vanguard	Daily Trust	Punch	
Sources of Stories	Medical Expert	Count	9	15	6	6	36
		% within Paper name	32.1%	33.3%	24.0%	25.0%	29.5%
	WHO	Count	4	5	1	1	11
		% within Paper name	14.3%	11.1%	4.0%	4.2%	9.0%
	NGO	Count	9	13	11	5	38
		% within Paper name	32.1%	28.9%	44.0%	20.8%	31.1%
	Ministry of Health	Count	2	3	5	1	11
		% within Paper name	7.1%	6.7%	20.0%	4.2%	9.0%
	Victims	Count	4	9	2	11	26
		% within Paper name	14.3%	20.0%	8.0%	45.8%	21.3%
Total		Count	28	45	25	24	122
		% within Paper name	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.235 ^a	12	.083
Likelihood Ratio	17.780	12	.123
Linear-by-Linear Association	4.288	1	.038
N of Valid Cases	122		

a. 8 cells (40.0%) have expected count less than 5. The minimum expected count is 2.16.