



# Evaluating the impact of film on the knowledge of Sickle Cell Disease amongst residents of Obio-Akpor local government area

Emudianughe, Prudence Okeoghene<sup>1</sup>, Osuagwu, Titilayo Remilekun<sup>2</sup>, Ikems, Konye Cynthia<sup>2</sup>

<sup>1</sup>Dept. of Journalism & Media Studies, University of Port Harcourt, Nigeria

<sup>2</sup>Dept. of Broadcasting, University of Port Harcourt, Nigeria

## Abstract:

The study evaluated the impact of film on the knowledge of sickle cell disease (SCD) in the Obio-Akpor Local Government Area of Rivers State, Nigeria. The objective of the study was to find out the level that sickle cell-themed movies have helped increase respondents' knowledge and attitudes towards sickle cell disease, and how respondents perceive the effectiveness of movies as a means of increasing their knowledge and understanding of sickle cell disease. The study was conducted using a survey design. The population of the study was 683,565. A sample size of 400 was obtained from the population size using the Taro Yamane formula and three selected communities were sampled. A purposive sampling technique was used to draw advocates and relatives of sickle cell disease for an online interview. The result of the analysis showed that sickle cell-themed films have not been effective in campaigning against sickle cell disease as there has been low awareness about the symptoms and treatment options of sickle cell disease even with film campaigns. However, movies have helped respondents understand the emotional and social impact of sickle cell disease on individuals and families. Also, while four out of the seven factors had a mean below the criterion mean of 2.50, the aggregate was above the criterion mean. To achieve effectiveness, it was recommended that community leaders and the government should fund and encourage filmmakers to create more health advocacy campaigns and sponsor more sickle cell-themed movies.

**Keywords:** Health Communication, Film, Public Health, Sickle Cell Disease

**Received:** November 21, 2023

**Revised:** April 17, 2024

**Accepted:** April 22, 2024

## Corresponding author

Emudianughe, Prudence Okeoghene

Dept. of Journalism and Media Studies,

University of Port Harcourt, Nigeria

Email:prudence\_emudianughe@uniport.edu.ng

## Introduction

The World Health Organization estimated that 150,000 children are born with sickle cell disease (SCD) annually in Nigeria, and about 100,000 of these children die (WHO, 2006). More than 40 million people are thought to carry the sickle cell trait, and more than 150,000 newborns are born every year with the disease (Galadanci et al., 2014). It is estimated that SCD affects about 2% of the general population in Nigeria, which has the highest incidence of SCD patients than any other country in the world, with over 24% of the population being carriers of the mutated gene (World Health Organization, WHO 2006).

Health communication interventions through film have been seen as effective tools in promoting positive attitudes and health literacy since they are mass media products and are presented based on experiences. Film is an art that bears the lives of people and shares their experiences and their philosophical disposition to the universe. Film draws from our human experiences and the environment to recreate reality (Usua, 2012). This ability makes film a communicative tool that can persuade, mobilize and program a group's ideological inclination.

According to Mehraj et al. (2014), films have the potential to alter people's attitudes and behaviours. Attitude and change become of interest in our research. As the world morphs continuously to shape lives in it, we also spin this wheel of change in all directions ranging from recession, socio-religious crisis, and personal crisis amongst others. Nascimento (2019) posits that not only does the 'analysis of films' represent an 'analysis of society,' but the films themselves conduct a 'social analysis'. This view strengthens the idea of the framing of society through film.

The study "A film-based intervention (Intinn) to enhance adolescent mental health literacy and well-being: systematic study" by Goodwin et al. (2021) assessed the impact of a film-based intervention on adolescent mental health literacy, well-being, and resilience. Using a pretest-posttest intervention with a multi-methods evaluation approach, the researchers used a convenience sample of ten schools and participants aged 15-17 years. Similarly, this research on sickle cell disease in the Obio-Akpor Local Government Area of Rivers State, Nigeria, evaluates the effectiveness of sickle cell-themed movies in increasing respondents' knowledge and attitudes towards

the disease. Both studies highlight the potential of film-based interventions in improving knowledge and awareness of important health issues among different populations.

The researcher evaluates the impact of the film on the awareness and knowledge of Sickle cell disease amongst people in Obio-Akpor Local Government Area, Rivers State. In semi-rural communities in Africa, due to the low literacy level, film and television become accessible, unlike printed materials which may not be ideal for educating illiterate adults about the disease. Film and traditional health education videos can be tailored to the social norms and values of a specific population. It is assumed that the written stories about Sickle cell disease continue to be incomplete or not completely adequate in their coverage of awareness, prevention, risks, and costs of drugs, as well as in encouraging women to embrace antenatal care, affected and not affected.

In Nigeria, over 66% of babies are born outside the formal health care system (Nigeria Demographic and Health Survey, 2013). Poverty, illiteracy and ignorance continue to cause the death of more children thus leaving more women barren. Focusing on the main prevention of SCD through public health education and other control measures is urgently needed. It is crucial to raise awareness of SCD in Nigeria and improve access to diagnosis and treatment to solve these problems. This can be accomplished by running educational campaigns, educating healthcare professionals, and funding studies to discover and develop novel SCD treatments. Supporting those with SCD and their families is crucial for helping them manage the condition and enhance their quality of life. For carriers and those living in remote areas to be able to make educated decisions about their reproductive lives and other health-related decisions, they must have access to good information about SCD through accessible media.

Additionally, the burden of social stigma associated with these difficulties might be lessened, and most significantly, the outcome might be lessened. Zizek (2019) suggests that film has evolved into a tool for disseminating state ideology to the masses, while Kashani (2016) views it as a vehicle for individual and social transformation. Macpherson and Warrender (2018) propose that film's capacity to stimulate discussion on various topics makes it a viable tool for educating the public about Sickle Cell Disease. Thus, this study was spirited towards evaluating the role of the film in the knowledge of sickle cell disease and also measuring their knowledge of the sickle cell disease among residents in Obio-Akpor. To put it specifically, this study was guided by the following two research objectives; 1) find out the level of knowledge of respondents regarding SCD, and 2) ascertain the extent of the respondents' belief that their exposure to movies about SCD is associated with knowledge and attitudes towards SCD in Obio-Akpor LGA in Rivers State.

## Issues and Awareness of Sickle Cell Disease in Nigeria

Sickle cell disease (SCD) is a genetic disorder that affects the production of haemoglobin, a protein in red blood cells that carries oxygen throughout the body. It is caused by mutations in both copies of the  $\beta$ -globin gene, a major subunit of haemoglobin (Hb) that damages and deforms the red blood cells. The clinical picture of the disease usually emerges after four months of age with highly phenotypically variable disease

(Bunn, 1997). A plethora of major clinical symptoms is associated with SCD. Some of these include chronic pains, acute anaemia, infection, joint swelling, and other eccentric complications (Serjeant & Serjeant, 2001). It has been estimated that up to 90% of patients are admitted to hospitals at one time or the other for episodes of pain (Brozovic, Davies, & Brownell, 1987). Individuals with SCD are also at risk of academic failure, as well as psychosocial maladjustment (Brown, Armstrong, & Eckman, 1993). Seven percent of SCD gene carriers and almost 75 percent of new SCD births occur in Africa (Weatherall, 2001).

The epidemiology of SCD has made it a global disease of public health importance that has been recognized by the WHO (Makano, Williams & Marsch, 2007). The UN-WHO resolution (22 December 2008) declaring 19 June the World Day for Sickle Cell and Thalassemia underscores the global importance of the disorder. Its management is burdensome on sufferers, and it has been demonstrated to affect psychological well-being (Bamisaie, Bakare, & Olatawura, 1974; Ohaeri, Sokunbi, & Akinlade, 1995). Nigerian society, and by extension African societies, have an aberrant attitude towards people with various forms of illnesses in the form of stigma, rejection, and disrespect. It is thought that illnesses like SCD are caused by witchcraft, magical spells, curses, or water spirits.

Good knowledge through accessible media regarding SCD is required for individuals, especially carriers and people in rural or semi-urban areas, to enable them to make informed decisions about their reproductive life and other health-related choices. Also, the burden of social stigma regarding these challenges could be reduced, and most importantly the resultant effect can also be lowered.

## Sickle Cell Disease Awareness in Nigerian Movies

In Nigeria, a few bold attempts have been made to highlight Sickle cell disease and the struggle it poses to the sufferer. Like in Tunde Kelani Dazzling Mirage (2014), a film adaptation-based novel of the same name by Olayinka Abimbola Egbokhare, which tells the story of a talented, beautiful young sickle-cell sufferer and how she overcomes social stigma, prejudice, and her low self-esteem to achieve career success, marriage, and motherhood. Also, in the movie, Strain directed by Uduak-Obong Patrick, a family man struggles to keep his family happy and united when his son is suddenly diagnosed with Sickle Cell Disease. He must raise funds to care for his sick child or risk losing his family.

Over the years, researchers have employed diverse frameworks to analyse the impact of Nollywood and film in general on sectors of health, examining their representation of children and women, or examining their role as elements of change and development. Omorea, Edemode, and Aihevba (2017) examined the impact of Nollywood films on Children's behaviour in Ekpoma, Nigeria. The study was carried out using both quantitative and qualitative methods which allowed the researchers to examine the contents of selected films while providing insights into the perception of Nigerian children about the films they see. The study found that children were not rightly represented though Nollywood posed the best tendency for developing and shaping the attitudes of children as it held great influence (Aniukwu, 2023).

The researcher recommended that content creators for Nollywood

lywood should emphasize a range of culturally elevating materials as well as others. While the above study understands the influence of the medium (film) in character development like ours it is concerned about the relationship between the messages received and the willpower to engage in an action or reflect feedback. Aroyewun and Folashade (2019) also analysed the themes and narratives in movies in a bid to explore the representation of mental health issues in Nigeria. By using a unique coding scheme, they identified and highlighted a couple of misrepresentations ranging from treatment, stereotype, stigma, symptoms, etc. The researchers thus suggested further studies to investigate audience perception and attitude to these representations. Similarly, our study seeks to understand the representation of Sickle cell disease in Nigerian video films while analysing audience perception of the representation.

Alfianto and Putri (2023) investigated the effectiveness of utilizing an animated film, *Kanca Cilik*, for health promotion to enhance mental health knowledge and self-efficacy among adolescents attending rural schools. The prevalence of mental health problems among adolescents had increased by 2018 compared to 2013, with factors such as poor knowledge and low self-efficacy in help-seeking behaviour contributing to this rise, especially in rural areas. Preventive and promotive efforts were deemed crucial to addressing these issues. A quasi-experimental, time-series design with a control group was employed, involving 156 students aged 12-19 years from rural schools. Purposive sampling was utilized to select participants. Unlike Alfianto and Putri, our current study employs a cross-sectional design to obtain a snapshot of respondents' knowledge at the time of the study. Alfianto & Putri's study found that the intervention group demonstrated a significant improvement in knowledge and self-efficacy related to help-seeking behaviour, whereas the control group did not exhibit significant changes. These results underscore the efficacy of using films for health promotion in augmenting mental health awareness and self-efficacy among adolescents in rural settings.

The theoretical framework for this study was the social learning theory and the agenda-setting theory. According to Rodam (2006), the Social Learning theory is based on the assumption that people learn how to behave by observing others, including those portrayed by the mass media. After observing the behaviour of others, people assimilate and imitate that behaviour, especially if their observational experiences are positive ones or include rewards related to the observed behaviour. The position of this theory according to Harris (1994) is that the exhibition of this learned behaviour depends largely on motivation and the strength of prevailing inhibiting factors. That is, learned behaviour or orientations could be strengthened or destroyed depending on certain factors around a person. However, the media provide some form of reinforcement (Orlu-Orlu, 2013). This theory becomes apt for this study as it explains how the audience's exposure to the film can explain and clarify the issues of sickle cell disease in their minds. The basic assumption underlying the Social Learning approach is that exposure to films with themes on sickle cell disease or health counselling before marriage is likely to influence their viewer's perception of Nigeria and encourage an evaluation of behaviour and attitude thus reducing the pains and witch-hunting. Some research studies indicated that media portrayals of certain topics could have an impact on audience perceptions, particularly if the media were the main information source for the people on that particular issue (Ezeh, 2009). This theory

argues that the media constructs a reality of the world that, whether accurate or inaccurate, could become accepted simply because we as a culture believe it to be true. The researchers base the judgments about film impact on viewers' perception of child health-related issues on this reality provided by these films concerning the above-mentioned issues. In line with this, the use of film in understanding sickle cell disease may or may not leave the viewers with any impulse that can trigger any reaction. It may not be out of place that these films could be making their audience have a rather vague view of the disease and the true position of things.

According to Baran and Davis (2011), agenda-setting theory occurs through a cognitive process known as "accessibility" which implies that the more frequently and prominently that new media covers an issue, the more that issue becomes accessible to the audience's memory. Agenda setting has been applied to examine various social issues including violence, sexism, stereotyping, gender representation, media effects, and others (Freeland 2012). Further, the theory also indicates that to arrive at a decision, people could weigh or evaluate their intended actions on the information provided or received from the media and compare this to the consequences or results seen by others. Herbert and Gibbon (2000) add to this by stating that the media cannot guarantee a public response, but they can at least create an agenda to which the public can respond. This theory thus explains the mass media's capability to choose and emphasize certain issues causing them to be seen as important through placement, repetition, or construction. Thus as stated by Orlu-Orlu (2013) the effect or influence of the media could be positive or negative. That is to say that awareness and sensitization through accurate and appropriate media content can help dissuade members of the public from rightly shunning all forms of witch-hunting and considering their actions and their consequences. Nwachukwu, Asak, and Asadu (2013) state that the theory influences the opinion of the public in a great way that members of the public tend to wholeheartedly believe whatever issues, topics, etc that are often repeated in the media as important. It is relevant to share the theory similarities with the theory of reasoned action which according to Glynn as cited in Agbanu (2014) humans are rational beings and as a result, calculate the cost and benefits of their actions before making decisions on media messages. Highlighting the relevance of this theory to this study, the struggle of parents or families with individuals suffering from Sickle Cell Disease can be said to be strengthened or dependent on the type of media messages they have been influenced by.

Our study on the impact of film on sickle cell disease among Obio-Akpor residents aimed to investigate the potential of using films as a tool to improve public health outcomes in this context. The following formed the research questions for the study:

RQ1. What is the level of knowledge of respondents regarding Sickle Cell Disease?

RQ2. What is the extent of the respondents' belief that their exposure to movies about Sickle cell disease is associated with knowledge and attitudes towards Sickle Cell Disease in Obio-Akpor LGA in Rivers State?

RQ3. How do respondents perceive the effectiveness of movies as a means of increasing their knowledge and under-

standing of Sickle Cell Disease?

The research design involved qualitative and quantitative, collecting data from surveys and interviews. In comparison to the study “Films for Public Health: Developing the Evidence Base for Films to Support Public Health Goals,” our research is more focused on sickle cell disease within Obio-Akpor residents, which was chosen for its semi-rural nature. While both studies share an interest in using films as a medium to influence public health, our study seems to be more localized and potentially more targeted in its approach. The Botchway et al. (2017) study, on the other hand, discusses the broader concept of using films for public health goals in a more general sense. It emphasizes the need for a robust methodological framework to evaluate the impact of public health films and proposes the adaptation of tools from other industries to measure emotional engagement and health outcomes. While both studies share a common interest in using films for public health purposes, our research seems to offer a more specific and potentially more in-depth analysis of the impact of films on sickle cell disease within a particular community, compared to the broader approach taken by Botchway et al. (2017).

## Research Methods

The selection of Obio-Akpor as a study location is based on its classification as a semi-rural community in Africa. In such areas, the literacy level tends to be low, making film and television more accessible forms of media compared to printed materials. This accessibility is crucial for educating illiterate adults about diseases like sickle cell disease, as visual mediums can effectively convey information and raise awareness among populations with limited reading abilities. A cross-sectional survey was chosen for this study for several reasons.

Firstly, a cross-sectional survey allows for the collection of data from a diverse range of participants at a single point in time. This is particularly useful for studying the awareness and knowledge of sickle cell disease in semi-rural communities, as it provides a snapshot of the current situation. Also, it allowed for the examination of relationships between variables and can provide valuable insights into the factors that influence awareness and knowledge of sickle cell disease in these communities. According to the National Population Commission, the total population for the Study is six hundred and sixty-five thousand, (683,565). For this population, the sample size was 400 using the Taro Yamane formula.

Films can reach a wide audience in these communities, including illiterate adults who may not benefit from traditional print materials. Additionally, films can convey complex information in a visually engaging manner, making them accessible to audiences with varying levels of education. The participants in this study were selected using a single-stage cluster sampling technique. Using the convenience sampling technique, three communities were selected from the local government area: Rumekini, Alakahia, and Choba. In evaluating the impact of film on awareness and knowledge in semi-rural communities like Rumekini, Alakahia, and Choba, it is important to consider the unique characteristics of these communities. Semi-rural communities often have lower literacy rates and limited access to formal education, making visual media like film an effective tool for education and awareness campaigns. The questionnaire was found to be appropriate and adequate in tackling research questions which seek to find out the awareness level of people about the impact of film on their knowledge of the causes, symptoms, treatment, management, and the

**Table 1.** The level of respondent's knowledge of sickle cell disease Obio-Akpor LGA in Rivers State.

S/N	Knowledge	AL	E	L	NAL	Total	Sum	M	Sd	Decision
1	How well do you know about Genotypes?	151	108	101	40	400	1170	2.93	0.731	High
2	How familiar are you with Sickle Cell Disease?	88	101	131	80	400	997	2.49	0.623	Low
3	How much do you know about the causes of Sickle Cell Disease?	97	98	124	81	400	1011	2.53	0.632	High
4	How much do you know about the symptoms of Sickle Cell Disease?	50	115	144	91	400	924	2.31	0.577	Low
5	How much do you know about the treatment options for Sickle Cell Disease?	33	52	141	174	400	744	1.86	0.465	Low
6	How often do you hear information about Sickle Cell Disease in your community?	45	61	135	159	400	852	2.13	0.532	Low
7	How often has your community had educational programs about Sickle Cell Disease?	17	31	97	255	400	610	1.53	0.381	Low
	<b>Aggregate</b>	<b>69</b>	<b>81</b>	<b>125</b>	<b>126</b>	<b>400</b>	<b>901</b>	<b>2.25</b>	<b>0.563</b>	<b>Low</b>

Note: AL = A lot, E = Enough, L = Little, NAL = Nothing at all

**Table 2.** Impact of Film Exposure on SCD Knowledge and Attitudes in Obio-Akpor LGA.

S/N	Knowledge	VLE	LE	SE	VSE	Total	Sum	M	Sd	Decision
8	To what extent do movies about Sickle Cell Disease influence your attitudes toward the disease?	67	100	97	136	400	898	2.35	0.56	Low
9	How knowledgeable do you feel about Sickle Cell Disease after watching movies about it?	75	138	69	118	400	970	2.42	0.61	Low
10	To what extent do you believe movies are an effective means of increasing your knowledge and understanding of Sickle Cell Disease?	173	127	58	42	400	1231	3.07	0.77	High
11	To what extent have movies helped you understand the causes, symptoms, and management of Sickle Cell Disease?	73	114	102	111	400	949	2.37	0.59	Low
12	To what extent have movies helped you understand the emotional and social impact of Sickle Cell Disease on individuals and families?	102	118	85	95	400	1027	2.57	0.64	High
13	To what extent have movies helped you understand the role of genetics in Sickle Cell Disease?	89	122	110	79	400	951	2.38	0.59	Low
	<b>Aggregate</b>	<b>97</b>	<b>120</b>	<b>87</b>	<b>97</b>	<b>400</b>	<b>861</b>	<b>2.52</b>	<b>0.63</b>	<b>High</b>

Note: \*Criterion Mean = 2.50, VHE = Very High Extent, HE = High Extent, SE = Low Extent, VSE = Very Low Extent

**Table 3.** The perceived effectiveness of movies as a means of increasing their knowledge and understanding of Sickle Cell Disease in Rivers State.

S/N	Knowledge	SA	A	D	SD	Total	Sum	M	Sd	Decision
14	Movies have helped me understand the available treatment options for Sickle Cell Disease.	51	158	107	84	400	976	2.44	.61	Disagreed
15	Movies can help increase public awareness about Sickle Cell Disease.	229	146	14	11	400	1393	3.48	.87	Agreed
16	Movies have helped me understand the role of genetics and inheritance in Sickle Cell Disease.	110	155	66	69	400	1106	2.77	.69	Agreed
17	Movies are a more effective way of learning about Sickle Cell Disease compared to other forms of media (such as books, brochures, or articles).	139	171	64	26	400	1211	3.03	.76	Agreed
18	Movies can help reduce misconceptions and stereotypes about Sickle Cell Disease.	144	196	38	22	400	1262	3.15	.78	Agreed
19	Movies have helped me understand the emotional and social impact of Sickle Cell Disease on individuals and families.	104	186	51	59	400	1135	2.83	.71	Agreed
20	I am likely to watch a movie about Sickle Cell Disease.	131	196	42	31	400	1227	3.07	.76	Agreed
	<b>Aggregate</b>	<b>130</b>	<b>173</b>	<b>55</b>	<b>43</b>	<b>400</b>	<b>1187</b>	<b>2.96</b>	<b>.75</b>	<b>Agreed</b>

Note: \*Criterion Mean = 2.50, SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

impact of the disease on families and individuals of Sickle cell disease. An interview guide containing five open-ended interview questions was used to gather data from sickle cell warriors, advocates, or relatives who were purposively sampled and interrogated for research question 3; the extent to which they believe film was effective in increasing knowledge and understanding of sickle cell Disease.

**Results**

Table 1 shows that respondent’s knowledge about genotypes was rated high (M = 2.93, SD = 0.731) and was familiar with the causes of Sickle cell disease but had little knowledge of the symptoms (M = 2.31, SD = 0.577) and treatment options of sickle cell disease (M = 1.86, SD = 0.465). Also, it shows that information about sickle cell disease (M = 1.53, SD = 0.381) and education programs concerning the disease were low (M = 2.25, SD = 0.563). However, all the factors except one had a mean below the criterion mean of 2.50 , which means that knowledge and awareness levels of the factors such as causes, symptoms and treatments, and management of sickle cell disease were low in Obio-Akpor LGA.

Table 2 shows that respondents believe movies are an effective means of increasing knowledge and understanding of sickle cell disease (M = 3.07, SD = 0.77) and also shows the extent to which movies have helped respondents understand the emotional and social impact of sickle cell disease on individuals and families (M = 2.57, SD = 0.64). Our data shows a low extent to which movies have helped them understand the causes, symptoms, and management of Sickle Cell Disease (M = 2.37, SD = 0.59) and the extent to which movies have helped influence their attitudes towards the Sickle cell disease rated low (M = 2.35, SD = 0.56). While four out of the seven factors had a mean below the criterion mean of 2.50, the aggregate was above the criterion mean (M = 2.52, SD = 0.63). An open-ended question from our questionnaire asking respondents to write out titles or descriptions of sickle cell disease-related movies received a total of 59 responses including our movies under review.

Table 3 reveals that respondents believe that movies can help increase public awareness about sickle cell disease (M = 3.48, SD = 0.87) and can help reduce misconceptions and stereotypes about Sickle Cell Disease (M = 3.15, SD = 0.78). Also, it shows that the respondents are likely to watch a movie about sickle cell disease (M = 3.07, SD = 0.76). All the factors had a mean above the criterion mean of 2.50, showing that the respondents acknowledged the impact of movies as a means of increasing their knowledge and understanding of sickle cell disease in selected communities in Rivers State. The interview

guide which was administered to advocates and volunteers of sickle cell disease awareness groups to answer this question shows an acknowledgement of the effectiveness of movies if the right research is done and attention to detail is given.

All the factors had a mean above the criterion mean of 2.50, showing that the respondents acknowledged the effectiveness of movies as a means of increasing their knowledge and understanding of sickle cell disease. It shows that movies can help increase public awareness about sickle cell disease, and reduce misconceptions and stereotypes about sickle cell disease thus allowing sickle cell warriors to work without discrimination. The interview guide which was administered to advocates and volunteers of sickle cell disease awareness groups also shows an acknowledgement of the effectiveness of movies if the right research is done and attention to detail is given.

**Discussion**

This study reported how much information and understanding there was about sickle cell disease among respondents in Rivers State’s Obio-Akpor LGA. It was seen that the extent of respondent knowledge and awareness of sickle cell disease was low (Mean<2.50). Also, it showed information about sickle cell disease and education programs concerning the disease was low, though knowledge about genotypes was rated high and respondents were familiar with the causes of Sickle cell disease. This study also looked at the respondents’ exposure to films about sickle cell and how these films affected their attitudes and understanding. While four out of the seven factors had a mean below the criterion mean of 2.50, the aggregate was above the criterion mean, signifying the potential of film for health education. These findings are consistent with the findings of Ovbiebo (2012), who investigated the use of cinema as an extra instructional tool for adults understanding of AIDS and HIV in the Igueben region of Edo State, Nigeria. The study verified the function of film in disseminating information on HIV/AIDS and its treatment through the application of a qualitative and quantitative approach and the use of an interpretive framework informed by participating, illiterate adults. This research also showed that including films in HIV/AIDS programs would make them better and more successful.

This study implied that the respondents agreed that watching movies helped them learn more about sickle cell disease. It shows that movies can help increase public awareness about sickle cell disease, and reduce misconceptions and stereotypes about sickle cell disease thus allowing sickle cell warriors to work without discrimination. The interview guide which was administered to advocates and volunteers of sickle cell disease awareness groups also showed an acknowledgement of the ef-

fectiveness of movies if the right research is done and attention to detail is given.

Akintayo, Sodeinde, and Olaniyi (2017) investigate how films can be used as a communication tool to raise awareness of domestic violence among undergraduate females in Nigeria, which is similar to our research. The research discovered that 44.8% of women or females agreed that movies could be used to inspire young Nigerian women to stand up against domestic abuse. The objective of film is to depict the lives of persons who suffer from sickle cell disorder, to delve into the obstacles that their families face, and to educate the public concerning the disease's characteristics.

In summary, the study found that the extent of respondent knowledge and awareness of sickle cell disease was low as they had little knowledge of the treatment options and there were only a few educational programs on sickle cell disease conducted in their communities. Respondents agreed that movies were an effective means of increasing their knowledge and understanding of sickle cell disease and they were likely to watch movies about Sickle Cell. Advocates of the sickle cell awareness campaign interviewed also acknowledged that film could be utilised to actively combat the disease in terms of awareness and education.

The limitation of this study is also notable. While this study aims to examine the effect of film on health knowledge, it did not specifically ask survey participants whether they had viewed the selected film. Instead, participants were asked to mention movies they had seen related to sickle cell disease. Additionally, the knowledge of those who had seen the selected film was not compared to those who had not. Future research would test deeply the effectiveness and extent of film using a focus-group discussion and longitudinal research.

## Conclusions

Film can present a reasonable and realistic representation of people. Like other mass media and social networking sites such as television channels, radio frequencies, facebook, and twitter among others, it can be used to raise awareness of Sickle cell disease. Advocates of the sickle cell awareness campaigns interviewed also acknowledged that film could be utilized to actively combat the disease in terms of awareness and education. The analysed movies adequately portrayed themes on stereotypes, treatment options, causes, symptoms, and family challenges, and respondents admitted that sickle cell-themed film was effective in increasing their knowledge of the disease and their attitude towards sickle cell warriors.

We concluded that the level of knowledge and awareness concerning symptoms and treatment options for sickle cell was low, also information dissemination regarding sickle cell disease amongst the community was low. Therefore, community leaders and advocacy groups must strive to create and share sickle cell-themed films for use to fight against more rise of diseases and reduce discrimination and pain for sickle cell warriors. The extent of respondents' exposure to sickle cell-themed movies was effective in influencing their knowledge and attitudes. More studies should be carried out to examine sickle cell-themed movies as well as other health-related movies to ensure that corresponding health information is properly portrayed and the influence from these movies remains positive. Movies were perceived to be effective as a means for increasing their knowledge and understanding of sickle cell

disease. Therefore, filmmakers should be encouraged to make more movies to use in awareness and advocacy campaigns for sickle cell disease, and against discrimination against sickle cell warriors. Also, the government should fund film-related campaigns for sickle cell and ensure that community leaders publicize them for advocacy use.

## Data Availability Statment

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

## Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## References

- Akintayo, J.B., Sodeinde, O.A & Olaniyi, M.O. (2017). Movies as Communication Tool for Creating Awareness on Domestic Violence among Female Undergraduates in Nigeria Babcock. *Journal Of Mass Communication*, 155 -17.
- Alfianto, A. G., & Putri, L. T. K. (2023). The Role of the Animation Film "Kanca Cilik" in Increasing Student's Relation to Mental Health Help-Seeking Behaviour. *Journal Promkes: The Indonesian Journal of Health Promotion and Health Education*, 11(1SP), 72-79.
- Aniukwu, N. (2023). The Screen Institution and Child's Models in Nollywood Fictional Reality Films: An Example of Two Rabbits. *International Journal of Multidisciplinary Research and Analysis*. 6(8), 3626-3634. <https://doi.org/10.47191/ijmra/v6-i8-31>.
- Aroyewun, K. A. & Aroyewun, A. T. (2019). Representation of Mental Illness in Movies: A Nigerian Perspective. *African Journal for the Psychological Study of Social Issues*. 22(2), 103-117.
- Baran, S. J & Davis, D.K. (2011). Mass Communication Theory; Foundations, Ferment, and Future (Sixth ed). *Wardsworth Carnage Learning*.
- Botchway, S., Bettiol, S., van Schalkwyk, M., Simpson, D., Flodgren, G., & Hoang, U. (2017). Films for public health: developing the evidence base for films to support public health goals. *Perspectives in Public Health*, 137(5), 260-261. <https://doi.org/10.1177/1757913917720153>
- Brown, R. T., Armstrong, F. A., & Eckman, J. R. (1993). Neurocognitive aspects of pediatric SCD. *Journal of Learning Disabilities*, 26, 33-45.
- Brozovic M, Davies S. C. & Brownell, A. I. (1987) Acute admissions of patients with sickle cell disease who live in Britain. *British Medical Journal*, 294: 1266-8.
- Bunn, H. F. (1997) Pathogenesis and treatment of sickle cell disease. *N Engl J Med*. 337:762-9. *PubMed*. <https://doi.org/10.1056/NEJM19970911337110>
- Ezeh, E.I. (2009). The link between television shows/movies'' exposure and immoral sexual behaviour of youths in Nsukka, Enugu state.
- Freeland, A. (2012). An Overview of Agenda Setting Theory in Mass Communications. University of North Texas.
- Galadanci, N., Wudil, B.J., Balogun, T.M, et al. (2013). Current sickle cell disease management practices in Nigeria. *Int Health (online)*. doi:10.1093/ inthealth/ih022.

- Goodwin, J. et al. (2023) 'A film-based intervention (Intinn) to enhance adolescent mental health literacy and well-being: Multi-methods evaluation study', *Mental Health Review Journal*, 29(1), pp. 48–63. doi:10.1108/mhrj-05-2023-0027.
- Kashani, T. (2016 ) *Movies Change Lives Pedagogy of Constructive Humanistic Transformation through Cinema*; Peter Lang Publishing Inc.
- Macpherson S, Warrender D (2018) Using film screenings to raise public awareness of mental health. *Nursing Times* [online]; 114: 7, 29-31.
- Makano, J., Williams, T. N. & Marsch, K. (2007). Sickle cell disease in Africa: Burden and research priorities. *Ann Trop. Med. Parasitol.*, 8:49-52.
- Mehraj, H K., Bhat, A., and Mehraj, H. R. (2014). Impacts of Media on Society: A Sociological Perspective. *International Journal of Humanities and Social Science Invention* 56 - 64
- Muro, M., & Jeffrey, P. (2008). A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of Environmental Planning and Management*, 51(3), 325-344.
- Nabavi, T. R. (2012). Bandura's Social Learning Theory & Social Cognitive Learning Theory.
- Nigeria Demographic and Health Survey (2013). www.population.gov.ng/.../2013-Nigeria-demographic-and-health-survey
- Nwachukwu, F.G., Asak, M.O. & Asadu, C.A. (2013). Communication theories, models, and hypotheses. Accuracy.
- Orlu-Orlu, H.C. (2013). Media Literacy, Religion, and Child Upbringing in a Multimedia Society. *Hab*.
- Osuagwu, T. R. (2009). The role of Interpersonal Communication in the management of conflict in Onne, Rivers State. MA thesis. The University of Port Harcourt.
- Oviedo, O.M. (2012). Film: A supplementary aid in teaching adults about HIV/AIDS in Igueben (Nigeria). The University of South Africa.
- Usua, J. N. (2012) *Introduction to film Production techniques*. University of Port Harcourt Press Ltd
- Weatherall, D.J. (2001). Towards molecular medicine; reminiscences of the haemoglobin field. *British Journal of Haematology*. 115(4):729-738.
- World Health Organization, WHO, (2006). Sickle cell anaemia. WHO Fifty-Ninth World Assembly, A59/9.
- Zizek, S. (2019). *Cinema Guide of Pervert*. Movie. Philosophy. Ideology; Gonzo

## Appendix QUESTIONNAIRE

### Section A: Personal Data

1. Sex: Male  Female
2. Age categories: 15-24  25-34  35-45
3. Highest level of education attained: Secondary   
Tertiary  None
4. Current marital status: Married  Single  Divorced   
Widowed
5. What religion do you belong to? Christian  Muslim   
Traditionalist  Others
6. Have you or any of your friends or family members ever  
been diagnosed with Sickle Cell Disease? Yes  No
7. Do you know your Genotype Yes  No

### Section B :

**Instructions: Please tick in the appropriate place according to the scale given.**

**Note:** AL = A lot, S = Somewhat, L = Little, N= Not at all

S/N		AL	S	L	NAL
8	How well do you know about Genotypes?				
9	How familiar are you with Sickle Cell Disease?				
10	How much do you know about the causes of Sickle Cell Disease?				
11	How much do you know about the symptoms of Sickle Cell Disease?				
12	How much do you know about the treatment options for Sickle Cell Disease?				
13	How often do you hear information about Sickle Cell Disease in your community?				
14	How often have your community had an education program about Sickle Cell Disease?				

**Instructions: Please tick in the appropriate place according to the scale given.**

**Note:** Very High Extent (VHE), High Extent (HE), Low Extent (LE), Very Low Extent (VLE)

S/N		VHE	HE	LE	VLE
15	To what extent have you seen or watched movies or films about sickle cell?				
16	To what extent do movies about Sickle Cell Disease influence your attitudes towards the disease?				
17	How knowledgeable do you feel about Sickle Cell Disease after watching movies about it?				
18	To what extent do you believe movies are an effective means of increasing your knowledge and understanding of Sickle Cell Disease?				
19	To what extent have movies helped you understand the causes, symptoms and management of Sickle Cell Disease?				
20	To what extent have movies helped you understand the emotional and social impact of Sickle Cell Disease on individuals and families?				
21	To what extent have movies helped you understand the role of genetics in Sickle Cell Disease?				

**Instructions: Please tick in the appropriate place according to the scale given.**

**Note:** Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

S/N		SA	A	D	SD
22	Movies have helped me understand the available treatment options for Sickle Cell Disease.				
23	Movies can help increase public awareness about Sickle Cell Disease.				
24	Movies have helped me understand the role of genetics and inheritance in Sickle Cell Disease.				
25	Movies are a more effective way of learning about Sickle Cell Disease compared to other forms of media (such as books, brochures, or articles).				
26	Movies can help reduce misconceptions and stereotypes about Sickle Cell Disease.				
27	Movies have helped me understand the emotional and social impact of Sickle Cell Disease on individuals and families.				
28	I am likely to watch a movie about Sickle Cell Disease.				

29. If you've seen a movie on sickle cell, please write the Title or a clue about the movie below.

### Interview Guide

1. Have you or anyone you know been affected by sickle cell disease? If yes, how has it impacted your life or the life of the person you know?
2. In your opinion, what are the most important things for people to know about sickle cell disease?
3. Have you seen any films about sickle cell disease? If yes to the above, what did you think about these movies? Kindly, mention the title of the movies you have seen. (If you can't remember the title, kindly describe a scene or leave a clue)
4. Do you think that Causes, Symptoms, Treatments, and Management were rightly or inaccurately portrayed? Explain briefly.
5. How do you think films (movies) about sickle cell disease can help people in Rivers State learn more about the disease?