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**INFORMATION SHARING FOR PREVENTION OF SICKLE CELL DISEASE  
AMONG UNDERGRADUATES' OF FEDERAL UNIVERSITY BIRNIN KEBBI,  
KEBBI STATE.**

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**Abstract**

Information sharing help to increase the consciousness of the other entity and established mutual relationship between the two entities. This study information sharing for prevention of sickle cell disease among undergraduates' of federal university Birnin kebbi is aimed to find out the level of awareness of information, sources of information and the level of practice of information sharing for prevention of sickle cell disease. A quantitative methodology was adopted for this study. A cross-sectional survey research design was conducted among undergraduates' of Federal University Birnin Kebbi, using a sample size of three hundred and seventy (370) from the total population of 11550 as suggested by the Krejcie and Morgan table. Questionnaire were administered to the respondents through a simple random sampling. Data were analysed using descriptive statistics (Frequency distribution, percentages, mean and standard deviation). The study revealed that the respondents were highly aware of information for prevention of sickle cell disease with *seven of the items were retain because their decision means were above of 3.00* representing 70%, and the major sources of their information includes; hospital/healthcare centres, class lecture and Facebooks. The study concludes that there is significant relationship between the awareness of information and sharing of information for prevention of sickle cell disease among the respondents. The study

recommended for more awareness through media like radio, newspapers, television among others on the effects of sickle cell disease.

**Keywords:** Information Sharing, Prevention, Sickle Cell Disease. Undergraduates

## **Introduction**

Information sharing is crucial to enable early intervention and preventive work of preventing the spread of sickle cell anaemia, for safeguarding and promoting welfare and for wider public protection. It is defined as the voluntary act of making information possessed by one entity available to the other. This will increase the awareness of the other entity and established mutual relationship between the two entities. Traditionally it is viewed by Mohammed and Jaber (2017) that information sharing means to exchange the information between one person to another, in other word, it is an exchange of information between a sender and receiver. Meanwhile, information sharing is depend on the personal behaviour and self-interest of an individual to share his or her information to others. Information sharing is a reciprocal, meaning that, the information you shared may come back to you in either the same or different way all in forms of making the information circulated.

The development of many societies or countries today depend largely on the information literacy level of their citizens. In such countries people have access to numerous information and also the opportunity to obtain, utilize and share to others to facilitate knowledge and awareness in that organizations or society. Savolainen (2017) also viewed information sharing generally as a set of activities by which information is provided to others, either proactively or upon request, such that the information has an impact on another persons' image of the world ... and creates a shared, or mutually compatible working, understanding of the world.

The advent of information technology and the prevalence of internet shaped the ways through which people communicate, obtain and share information electronically. Information can be shared through the use of Internet, email, phone, mobile, and database or websites. These makes information sharing faster and it reaches a larger audience within a short period of time. This electronic mode of information sharing increases and doubled up the transfer of information from one person to another. This assertion was supported by Masele (2021) who states that current technology offers much more possibilities not only for archiving, processing and retrieving information, but also sharing information among individuals or people at work or non-work settings, from different disciplines as well as culture irrespective of their location. Meaning that people can share information using current technologies to communicate to

others irrespective of their culture, discipline or location. Muhammed and Jaber (2017) also emphasized that today social networking tools such as Facebook, WhatsApp, twitter, YouTube, telegram etc. facilitate information sharing among undergraduate student in tertiary institution.

The function of information sharing in health promotion cannot be over emphasized; it increase awareness and facilitate practice, it also enlighten the public to be aware of the danger around them. Information sharing can also serve as first aid to control the prevalence of any disease in the society particularly sickle cell disease. Information sharing is one of the easiest means to improve information access to users and the process of information sharing incorporates two major aspects, i.e., giving information to others, and receiving information that has been provided by the information giver via some channel. This implies that information sharing in this content consist of three components, these are; information sender, information receiver and medium (sender-medium-receiver). Information sharing is a paramount means of communication that create awareness to the public for effective health utilization. People awareness on the existence of any disease depend largely on the level of information sharing on that particular disease.

Information sharing is essential to enable early intervention and preventative work, for safeguarding and promoting welfare and for wider public protection. According to Masele (2021) the ability to work well with others is a function of effective information sharing. Hence, it is an essential activity in all collaborative works, and helps to bind groups and communities together. Information sharing is also a vital element in improving outcomes for all. Where you have concerns that the actions of some may place others such as children at risk of significant harm or adults at risk of serious harm, it may be possible to justify sharing information with or without consent for the purposes of identifying people for whom preventative interventions are appropriate. Meanwhile, there is an increasing emphasis on integrated working across services with the aim of delivering more effective intervention at an earlier stage. Early intervention aims to prevent problems escalating and increase the chances of achieving positive outcomes. In a nutshell, appropriate information sharing is an essential part of the provision of safe and effective care (Kim, 2017).

National Guideline for the Control and Management of Sickle Cell Disease (2014) defined Sickle cell disease (SCD) as a generic name for a group of inherited haemoglobin disorders characterized by the presence of sickle red cells in the blood which leads to clinical illness (disease). It is a genetic disorder transmitted from parents to their offspring's. The disorder is associated with many challenges resulting from frequent hospitalization of the affected

individual due to vaso-occlusion crises or other forms of complications (WHO, 2017). Lumbel and Kibusi (2022) viewed SCD as a group of inherited red blood disorders transmitted from parents to their offspring. The effect of sickle cell disease is very dangerous to the society, it impose financial burden to the affected families and make life difficult to the affected person. Individuals affected with SCD, the red blood cells become hard and adhesive and appear like a C-shaped farm tool termed a “sickle”. As a result these abnormal Sickle cells die early within 10–17 days in contrast to the normal 120-day lifespan of non-sickled RBCs, leading to constant shortage of red blood cells (Babalola et al., 2019). In addition to that sickle cells can get jammed in small blood vessels and block the flow of blood and oxygen to organs in the body. These blockages cause repeated episodes of severe pain, organ damage, serious infections, or even stroke (Aderotoye-oni, Diaku-akinwumi, Adeniran, & Falase, 2018).

The prevalence of Sickle-cell Disease (SCD) is global concerned and remained a threat to the life of people particularly new born babies. Researches shows that about 5% of the world’s population carries genes responsible for haemoglobinopathies. According to the World Health Organization Report (2017), about 300 000 infants are born with major haemoglobin disorders annually – including more than 200 000 cases of sickle-cell anaemia in Africa. However, there are more carriers (i.e. healthy people who have inherited only one mutant gene from one parent) of thalassaemia globally than of sickle-cell anaemia, but the high frequency of the sickle-cell gene in certain areas leads to a high rate of affected newborns. Chakravorty and Williams (2015), affirmed that, in every year around the world 312,000 children with sickle cell disease are born, and it shows that Sickle-cell anaemia is particularly common among people whose ancestors come from sub-Saharan Africa, India, Saudi-Arabia and Mediterranean countries. In West African countries such as Ghana and Nigeria, the frequency of the trait is 15% to 30%. While in Nigeria the most populous country in the sub region, 24% of the population are carriers of the mutant gene and the prevalence of sickle-cell anaemia is about 20 per 1000 births. This means that, about 150 000 children are born annually with sickle-cell anaemia and the burden is expected to increase by 75% in 2050 as projected by (Manga et-al, 2019).

Despite national and international commitment in sickle cell disease and the adoption of a UN resolution recognizing SCD as a public health problem, yet, SCD prevention using effective primary prevention measures remains inadequate and the awareness of information is seem to be very low. Hence, there is need for effective information sharing to facilitate awareness,

sensitization and increase the knowledge of undergraduates in Nigeria to strengthen primary prevention, reduce disease incidence, morbidity and mortality, and improve quality of life.

### **Statement of the problem**

The functions of information sharing in health promotion cannot be over emphasized. Effective information sharing will help to identify sickle cell carrier easily and acquaint public with primary preventive measures such as genotype screening to facilitate the genetic diagnosis of vulnerabilities to inherited diseases to determine a child's parentage or a person's ancestry, and the result of a genotype screening will determine a person's chance of developing or passing on a sickle cell disease. The burden of sickle-cell disease in Nigeria is increasing with the increase in population. This has major public health and socioeconomic implications. Despite national and international commitment in sickle cell disease and the adoption of a UN resolution recognizing SCD as a public health problem, yet, the prevalence of SCD in Nigeria is increasing and the prevention using effective primary prevention measures remains inadequate.

Manga et-al (2019) reported that Nigeria bears the highest burden of the disease in Africa, where about 25% of the population, are the carriers of the disease while 2%-3% living with the disease, and the prevalence of the disease is also projected to increase by 75% in 2050. For example, in Kebbi State, the prevalence of the disease is also worrisome as confirmed by Kebbi State Sickle Cell Association (KESCA) in conjunction with the State Ministry for Health Development. According to KESCA (2023) more than 1,426 both carriers and sickle cell patients were able to be identified so far from 15 out of 21 Local Government Areas in Kebbi State in which many of the students of the Federal University Birnin Kebbi, who were parts of this study were included. Therefore, there is need for a proactive measures to control the prevalence of the disease in the society. However, as important as information sharing for prevention of sickle cell disease, researchers did not investigate it in Universities in Nigeria. As such, the researcher investigated information sharing for prevention of sickle cell disease among undergraduate students of Federal University Birnin Kebbi, Kebbi State as one of the Universities in the country from which the result can be transferred to other similar Universities

because of the dearth of knowledge in the context, focusing on ‘Information sharing for prevention of sickle cell disease among undergraduates of Federal University Birnin Kebbi, Kebbi State, Nigeria.’

### **Research Questions**

1. What is the level of awareness of information for prevention of sickle cell disease among Undergraduates’ of Federal University Birnin Kebbi?
2. What are the sources of information for prevention of sickle cell disease among Undergraduates’ of Federal University Birnin Kebbi?
3. What are the benefits of information sharing for prevention of sickle cell disease among Undergraduates’ of Federal University Birnin Kebbi?

### **Hypothesis**

**H01** There is no significant relationship between the awareness of information on sickle cell disease and benefits of information sharing for prevention of sickle cell disease among Undergraduates’ of Federal University Birnin Kebbi?

### **Literature Review**

Information is described by Masele (2021) as power, with which, one can control his/her own destiny, career, and money. It is knowledge accumulated from information that gives one the power of decision making. Through information one can confidently devise strategies, make decisions, and implement action. It keeps one ahead, making him/her knowledgeable, it is valuable brings respect, control and guide ones action. Information sharing is a core human activity that catalyzes innovation and development. the concepts of information sharing is associated with concepts of innovative behaviour which is explained by Neiva (2017) as “innovative behaviour is defined by individuals to generate creative ideas, promote ideas for others, develop plans for implementing these new ideas and uncovered new technologies, processes, techniques, or ideas about a product”. However, it is noted that individual who actively exercises his/her right to access different information sources irrespective of the contextual differences, have access to required information, and not all the information are equal, only required and useful information need to be shared with others.

Information sharing also means to exchange the information between one person to another, it refers to the exchange of information between a sender and receiver through a specified

medium. Scholz and Falk (2020) define interpersonal information sharing broadly in terms of facts, ideas, preferences, and knowledge that are communicated from a sharer to a receiver in a single interaction. Henshaw and Okechukwu (2020) state that effectiveness of any achievement or activities today dependent largely on the effectiveness of information sharing in an organization because information furnishes an individual with the knowledge desirable to triumph over confrontations and take the proper step timely. Information sharing also viewed by Savolainen (2017) as an activity through which ideas, opinions, facts and documents are transferred from an individual (or group) to other people. Therefore, information sharing can be understood in general as ‘a set of activities by which information is provided to others, either proactively or upon request, such that the information has an impact on another person's (or persons') image of the world, and creates a shared, or mutually compatible working, understanding of the world’.

Lumbel and Kibusi (2022) viewed SCD as a group of inherited red blood disorders transmitted from parents to their offspring. Normally, healthy red blood cells are round and they move through small blood capillaries carrying oxygen to all parts of the body. Individual affected with SCD, the red blood cells become hard and adhesive and appear like a C-shaped farm tool termed a “sickle”. As a result these abnormal Sickle cells die early within 10–17 days in contrast to the normal 120-day lifespan of non-sickled RBCs, leading to constant shortage of red blood cells (Babalola et al., 2019). Sickle cells can get jammed in small blood vessels and block the flow of blood and oxygen to organs in the body. These blockages cause repeated episodes of severe pain, organ damage, serious infections, or even stroke (Aderotoye-oni, Diaku-akinwumi, Adeniran, & Falase, 2018).

Ugwu (2016) stated that the effects of sickle cell disease include chronic anemia, jaundice, recurrent bone pains, gradual deterioration of tissue and organ function and early mortality. Furthermore, Sickle cell disease (SCD) is a type of genetic disease and hereditary disorder characterized by red blood cell with abnormal form of haemoglobin called Hbs (Faremi, Olatubi & Lawal, 2018). Adewoyin (2015) viewed SCD as a chronic haemolytic disorder that is marked by tendency of haemoglobin molecules within red cells to polymerise and deform the red cell into a sickle (or crescent) shape resulting in characteristic vasoocclusive events and accelerated haemolysis. It is inherited in an autosomal recessive fashion either in the homozygous state or double heterozygous state.

Findings from the studies of Antwi-Baffour et al (2014) and Saganuwan (2016) stated that sickling of the red blood can cause either mild or severe complications (Illness) which are sometimes raised by bacterial, viral and parasitic infections. These illnesses include, gall stones, stroke in children, jaundice, acute chest syndrome, bone crisis (pain episodes), priapism (painful abnormal penile erection), leg ulcers, while abnormal renal function and bone marrow failure are the rare pathological conditions which require early and proper management. Ilesanmi (2013) stated that, children who suffer from SCD are often smaller or thinner than their healthy peers and might feel agitated and less intellectually competent because they often miss school and suffer academic challenges. Besides, when children with SCD turn to adolescents, they often suffer low self-esteem, social withdrawal and depression. High-risk pregnancies and anaemia are common occurrences among women with SCD that could complicate the underlying condition of the foetus (Adegbite and Akinola, 2021).

In conclusion, most of the researches conducted in Nigeria shows that, the majority of the respondents are aware of information on genotype screening and sickle cell disease. It was also testified that, the relationship exist between awareness of sickle cell disease and practice of genotype screening, yet the prevalence of the disease is worrisome. Hence, the researcher is of the view that, establishing information sharing network on genotype screening as the most suggested preventive measure against sickle cell disease remain the only solution to control the prevalence of the disease.

### **Methodology**

Quantitative research methodology was adopted for this study to save time and resources. A cross-sectional survey research design was adopted for this study. The total number of the study population is eleven thousand, five hundred and fifty (11,550). The sample size of three hundred and seventy (370) was selected for this study. This is in accordance with Krejcie & Morgan table (1970), which suggested that in a population of 10,000 to 14,999 a sample size of 370 should be selected. A simple random sampling technique was used to select respondents across the six faculties in FEDERAL UNIVERSITY BIRNIN KEBBI. However, to determine the sample size allocated to each faculties the proportionate sampling procedure was used through average and percentage. The instrument used for data collection for this study was questionnaire developed by the researcher and named it “Questionnaire of Genotype Information sharing” (QGIS). The instrument was strengthened through review of literature, supportive information obtain during the pilot study and the review of the instrument by the

researcher's supervisor and other senior colleagues. The reliability of the instrument was done by self-administering the questionnaire once to about 10% equivalent of the respondents at the Federal University Gusau for the pilot study and subsequently the coefficient reliability was determined using SPSS analytical software, with a reliability coefficient of 0.773. Introductory letter was collected from the head of the department for easy identification of the researcher. Data were analysed using descriptive statistics (Frequency distribution, percentages, mean and standard deviation).

### Data Analysis and Discussion

**Table 1 Presents the Level of Awareness of Information on Sickle Cell Disease**

S/N	Awareness of information on Genotype Screening & SCD	SA	A	UD	NA	SNA	Mean	SD
		Frequency (%)						
1	SCD is a hereditary disease and can be transferred from the parent to their child	271 (78.8)	73 (21.3)	0	0	0	4.78	0.39
2	SCD is associated with frequent hospitalization and affect the child life cycle.	34 (9.8)	303 (88.1)	7 (2.0)	0	0	4.07	0.32
3	SCD block the flow of blood and oxygen to organs in the body which cause severe pain, organ damage, serious infections, or even stroke.	26 (7.5)	56 (16)	26 (7.5)	236 (69)	0	2.62	0.98
4	A child with sickle cell disease mostly died before the age of five	4 (0.8)	17 (4.6)	40 (10.8)	383 (83.7)	0	2.83	0.56
5	Giving special health care to affected sickle cell child adds economic burden to the family.	40 (11.6)	283 (82.2)	19 (5.5)	2 (.05)	0	4.04	0.41
6	Genotype screening remains the major solution to control prevalence of sickle cell disease.	39 (11.3)	292 (84.9)	13 (3.8)	0	0	4.07	0.36
7	Genotype screening is needed at the beginning of the courtship before marriage to identify carriers (trait)	11 (3.1)	180 (52.3)	55 (15.9)	98 (28.4)	0	3.30	0.22
8	Carriers (AS) are the major contributors of sickle cell disease in the society.	18 (5.2)	42 (12.2)	30 (8.7)	254 (73.8)	0	2.48	0.90

9	When sickle cell carrier marries a carrier (AS+AS), there is high possibility of having sickle cell child (SS).	42 (12.2)	275 (79.9)	25 (7.2)	2 (0.5)	0	4.02	0.44
10	Presentation of fake result of genotype screening increase the prevalence of the SCD	42 (11.4)	266 (79.1)	32 (8.7)	4 (.08)	0	4.00	0.48

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*SOURCE: Field work (2024)*

It can be seen from the table above that, the respondents are highly aware that sickle cell disease is hereditary disease and can be transferred from parents to their children with the frequency and percentage of 271 (78.8%). This finding is in conformity with the study conducted by Yalma and Awodiji (2021) who, reported that majority of undergraduate Students of the University of Abuja were aware of sickle cell disease and also had a good knowledge of genotype screening for sickle cell prevention, Abdulhameed and Yalma (2021), who revealed that both junior and senior secondary school students in Gwagwalada Area Council, FCT Abuja had good knowledge of Sickle Cell Disease. Ugwu (2016) found out that majority of undergraduate students of a Nigerian tertiary educational institution, have adequate knowledge about Sickle Cell Disease. Innocent, Ezejindu, Vasavada and Duruji (2022) which revealed that the undergraduates in south-eastern Nigeria, were aware of the information on Sickle Cell Disease. This implies that, students in tertiary institutions are highly aware of sickle cell disease but the practice of genotype screening as a primary preventive measure is less which resulted to the high prevalence of the disease. Therefore, information sharing on genotype screening is paramount for prevention of sickle cell disease in Nigeria.

**Table 2 Present the Summary of Descriptive Analysis of sources of information on SCD**

Table 2 present the descriptive analysis of respondents' opinion on sources of information on sickle cell disease. *The analysis revealed that 5.2% of the respondents are getting information on sickle cell disease from their friends, 6.1% of the respondents are getting information on*

S/No	Items Statements	Frequency (F)	Percentages (%)
1	Friends	18	5.2
2	Health care workers	21	6.1
3	Class lecture	35	10.2
4	Radio	13	3.8
5	Television	5	1.5
6	Religious Centre	1	0.3
7	Social Media	56	15.3
8	Social Centre	19	5.5
9	Database	2	0.6
10	Library	8	2.3
11	Hospitals/healthcare centres	157	46.6
12	Parents	9	2.6
	<i>Total</i>	344	100

*sickle cell disease from health care workers, 10.2% of the respondents are getting information on sickle cell disease from class lecture, 3.8% of the respondents are getting information from Radio, 1.5% of the respondents are getting information on sickle cell disease from television, 0.3% of the respondents are getting information on sickle cell disease from religious center, 15.3% of the respondents are getting information on sickle cell disease from social media, 5.5% of the respondents are getting information on sickle cell disease from social center, 0.6% of the respondents are getting information on sickle cell disease from database, 2.3% of the respondents are getting information on sickle cell disease from library, 46.6% of the respondents are getting information on sickle cell disease from Hospitals/healthcare centers and 2.6% of the respondents are getting information on sickle cell disease from their parents.* In conclusion, hospitals/healthcare centres were mostly used as sources of information on sickle cell disease followed by social media and lectures.

*This finding is in agreement with a study conducted by Ugwu (2016) on sickle cell disease: awareness, knowledge and attitude among undergraduate students of a Nigerian tertiary educational institution, through a cross-sectional descriptive study which revealed that class lectures (35%) and health workers (19.1%) being the most common sources of their information.*

**Table 3 Present the Summary of Descriptive Analysis on the Benefits of Information Sharing for Prevention of Sickle Cell Disease**

	SA	A	UD	D	SD	Mean	SD	
<b>S/N</b>	<b>Benefits of information for prevention of SCD</b>						<b>Frequency (%)</b>	
<b>1</b>	32 (9.3)	303 (88.0)	8 (2.3)	1(0.2)	0	4.06	0.35	
	Public awareness on the importance of genotype screening remain a major solution to control the prevalence of SCD							
<b>2</b>	29 (8.4)	307 (89.2)	4 (1.1)	4 (1.1)	0	4.04	0.33	
	I undergone genotype screening to know my genotype status in order to prevent my unborn children from SCD							
<b>3</b>	9 (2.6)	311 (90.4)	9 (2.6)	5 (1.4)	0	3.85	0.32	
	Information on genetic counselling will help me to make a right selection of a marriage partner							
<b>4</b>	162 (43.9)	178 (55.3)	3 (0.5)	1 (0.3)	0	4.45	0.52	
	I will inform my fiancé (person I intend to marry) about the result of my genotype screening							
<b>5</b>	320 (93.1)	24 (6.9)	0	0	0	4.93	0.24	
	I will make sure my partner go for genotype screening							
<b>6</b>	20 (5.8)	322 (93.6)	2 (0.5)	0	0	4.05	0.23	
	Information on the cost and benefit of genotype screening will encourage undergraduate to undergo a genotype screening							
<b>7</b>	35 (9.3)	307 (89.2)	2 (0.5)	0	0	4.09	0.30	
	Information on inheritance pattern will increase the knowledge of undergraduate about SCD to avoid presenting fake result							
<b>8</b>	28 (8.0)	268 (77.9)	54 (15.6)	0	0	3.99	0.46	
	I cannot get marriage with someone who refuses to undergo genotype screening to avoid having a child with SCD							
<b>9</b>	10 (2.9)	282 (81.9)	49 (14.2)	3 (0.9)	0	3.87	0.41	
	Stakeholders at the wedding venue demands for result of genotype screening							

encourages undergraduate to go for the screening/test

Table 3 present the descriptive analysis of respondents' opinion on the benefits of information for prevention of sickle cell disease. *The analysis revealed that all the items were retain because their decision means were above 3.00. In item 'one' the respondents were agreed that, Public awareness on the importance of genotype screening remain a major solution to control the prevalence of SCD with mean of 4.06, item 'two' the respondents were agreed that, they have undergone genotype screening to know their genotype status in order to prevent their unborn children from SCD with mean of 4.04, in item 'three' the respondents agreed that, information on genetic counselling will help them to make a right selection of a marriage partner with mean of 3.85, in item 'four' the respondents agreed that, they will inform their fiancé (person they intend to marry) about the result of their genotype screening with mean of 4.45, in item 'five' the respondents were agreed that, they will make sure their partners go for genotype screening with mean of 4.93, In item six, the respondents were agreed that, Information on the cost and benefit of genotype screening will encourage undergraduate to undergo a genotype screening with a mean of 4.05, in item seven, the respondents agreed that, Information on inheritance pattern will increase the knowledge of undergraduate about SCD to avoid presenting fake result with a mean of 4.09, in item eight, the respondents agreed that, they cannot get marriage with someone who refuses to undergo genotype screening to avoid having a child with SCD with a mean of 3.99, in item nine, the respondents agreed that, Stakeholders at the wedding venue demands for result of genotype screening encourages undergraduate to go for the screening/test with mean of 3.87. In conclusion the analysis revealed that the benefits of information sharing for prevention of sickle cell disease is enormous.*

This finding provided a literature on the benefits of information sharing for prevention of sickle cell disease among undergraduates of Federal University Birnin Kebbi, and can also be applied to other tertiary institutions in Nigeria.

**HO<sub>1</sub>:** There is no significant relationship between awareness of information on Sicke Cell Disease and benefits of information sharing for prevention of sickle cell disease among undergraduates' of Federal University Birnin Kebbi

**Table 4 Summary of Correlational Analysis of Respondents opinion on the Relationship between Awareness of Information on SCD and Benefits of Information for Prevention of Sickle Cell Disease**

Groups	N	Mean	SD	R	Df	p-value	Decision
Practice	344	35.26	2.02	0.93	367	0.00	Reject
Awareness	344	37.41	1.37				

Significant at level of  $\leq 0.05$

Table 5 revealed the analysis of correlational analysis with R value of 0.93 and p-value of 0.00 at df of 367. The p-value is less than the alpha-value ( $0.00 < 0.05$ ). Therefore, the null hypothesis was rejected and conclude that there is significant relationship between awareness of information on sickle cell disease and benefits of information sharing for prevention of Sickle Cell Disease among undergraduates' of Federal University Birnin Kebbi

This findings also testified that a relationship exist between awareness of information on sickle cell disease and benefits of information sharing for prevention of sickle cell disease. Therefore, it implies that when information are properly shared it will reduce the prevalence of the disease which is of great benefits to the society in general.

### Conclusion

It was concluded that the respondents are highly aware of information for prevention of sickle cell disease and shared it adequately for the benefits of the general population. However, the major sources of their information includes: Hospitals/healthcare Centres ((46.6%), Class Lecture (10.2%), Social Media such as Facebook and WhatsApp shared (15.3%).

### Recommendations

1. Healthcare providers should ensure that more information on sickle cell disease are at the disposal of the undergraduates to increase their awareness and facilitate the information sharing for prevention of sickle cell disease in Nigeria
2. Other sources of information such as Newspapers, Magazines, Radio and Television will be given a serious consideration in provision of information for prevention of sickle cell disease among undergraduate and the general public.
3. More awareness campaign should be encourage, because the benefits of information sharing for prevention of sickle cell disease relied heavily on the awareness of the information. In addition, introduction of compulsory genotype screening will serve as a great benefits for prevention of sickle cell disease in Nigeria.

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