

Research Article

A Description of the Knowledge and Attitude Toward Premarital Sickle Cell among Unmarried Adults Residence of Naraguta Village in Jos North

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ABSTRACT

Introduction: Premarital sickle cell screening is a test done to screen intending couples to determine their genotype before marriage. It provides information about the health of the individuals while assessing their related reproductive risk. **Aim:** This study aimed to assess the knowledge of adults on premarital sickle cell screening among unmarried residence of Naraguta village in Jos North, Plateau state. **Methodology:** A descriptive research design was adopted, sample size of 306 adult residences was drawn from an estimated of 1500 through a proportional stratified sampling technique. Structured questionnaire was used to obtained the data and was analyzed through descriptive and inferential statistics. **Results:** Findings or result revealed that most of the adult respondents (71%) had low knowledge about premarital sickle cell screening and (53%) and had negative attitude toward premarital sickle cell screening. Of the respondents (31%) of the adult unmarried are not intending to comply to the screening and stated their reasons to be that the screening is costly and is waste of time and resources. Furthermore, there was a significant relationship between knowledge and attitude toward premarital sickle cell screening among the unmarried adult residence of Naraguta village. This indicates that knowledge about premarital sickle cell screening has a great impact in developing positive attitude toward sickle cell screening. **Conclusion:** It was, therefore, concluded that the unmarried adult at the Naraguta village has low level and knowledge and negative attitude toward premarital sickle cell screening.

Keywords: Attitude, Knowledge, Married adults premarital, Practice, Sickle cell, Unmarried adults

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Introduction

Sickle cell disorder is one of the genetic diseases affecting Nigerians and its effective eradication and management

constitute a challenge to both parents and health professionals due to the transmission of the genetic trait from parents to offspring, frequent hospitalization of the affected persons, and associated mortality.^[1] Despite major advances in molecular pathology that determines the causes of genetic disorders, infants and children are still dying of sickle cell disorder in Nigeria due to lack of appropriate screening/ counseling measures before marriage.^[2] Sickle cell disease (SCD) is an autosomal recessive genetic blood disorder characterized by red blood cells that assume an abnormal, rigid, and sickle shape due to mutation in the hemoglobin gene.^[3] This genetic disorder (SCD) is as a result of abnormality in the synthesis of B-globin chain of hemoglobin molecule. This abnormality results from the substitution of a polar amino acid, glutamic acid, with a non-polar amino

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acid, valine, in the 6th position of chromosome 11.^[4] Under low oxygen tension, this single point mutation causes red blood cells to assume the shape of a “sickle” and leads to complications including tissue infarction, anemia, priapism, splenomegaly, and reduced dietary intake.^[2] This sickle shape decreases the red blood cells’ flexibility and causes vascular occlusive complications such as painful episodes at extremities and chest, stroke, priapism, liver disease, leg ulcers, spontaneous abortion, and renal insufficiency, among others.^[3] A person who receives one defective gene from both father and mother develops the disease, while a person who receives one defective and one healthy gene remains healthy but can pass on the disease so he/she is known as a carrier.^[5] According to the World Health Organization,^[1] sickle cell disorder contributes to 5% of under-five deaths on the African continent; more than 9% of such deaths occur in West Africa and up to 16% of under-five deaths in individual West African countries. Akinyanju^[6] states that about 150,000 children are born each year with sickle cell diseases and about 2–3% of Nigerians live with the disease while 25–30% of Nigerians carry the gene that can give rise to sickle cell disease (SCD).^[7] To prevent this disorder, sickle cell screening and testing have been recommended for couples before marriage.^[6,8]

Premarital sickle cell screening is an important measure to control, minimize, and prevent sickle cell disorders among the youth.^[7] Premarital sickle cell screening/testing has been defined by different people in different ways, Littleton and Engebretson,^[9] see it as a process for screening couples going into marriage for genetic and blood transmitted diseases to prevent any risk of transmitting diseases to their children. This was echoed by Gharaibe and Mater^[10] as they see it as an important tool used by intending couples to control, minimize, and prevent sickle cell disorders. Furthermore, sickle cell testing serves as a tool for diagnosis of SCD, it also provides individual couples with an accurate understanding of sickle cell inheritance and what it means to be at risk. In addition, information about premarital sickle cell screening and counseling has become part of marriage course counseling and regular medical practice.^[11] It has also helped to achieve desired level of knowledge and a change in attitude.^[12] However, in spite of abundance information about sickle cell disorder, the attitudes of Nigerians toward premarital sickle cell screening are worrisome as many people go into marriage without knowing their sickling status only to find out that one or more of their children is a sickle cell patient and watch them go through episodes of crises. The child may suffer long-term complications that may invariably lead to academic failure, limiting career option, and some clinical manifestation such as chronic pain, physical debilitation, and emotional distress.^[10] At the end, child ill health may put a strain on the marital relationship which may lead to separation which could affect the family members psychologically, physically, financially, and in all facets of family life.

Knowledge of SCD before marriage is essential, especially in communities where many young adults are in the reproductive age and consider their community setting as a domain for choosing their life partners. In Naraguta village, rural community, where this group of people practice is like that of the olden days practice, most of them neglect premarital sickle cell before marriage, therefore the chances of giving birth to a child with sickle cell disorder. Hence, the need to assess the Knowledge and Attitude Toward Premarital Sickle Cell among Unmarried Adults Residence of Naraguta village.

Statement of the problem

Children are born with SCD possibly because parents may have entered into marriage without prior knowledge of their sickling status.

Al-Kindi, Salha, and Al kendi^[13] stated that despite current advances in diagnosis and the increasing campaigns through mass media and health professionals, all are supposed to increase people’s knowledge of premarital sickle cell screening and counseling with a view to causing a drop in high-risk marriages. However, this is not always the case as many people go into marriage without having insight into their genotype, especially in developing countries where diagnosis is usually made when the individual presents in the clinic with severe complications.^[6] In addition, lack of knowledge and poor attitude toward premarital cell screening before marriage has led to birth of a child with the disorder, separation and divorce among parents, frequent going in and out of the hospital, and infant mortality and morbidity.^[14]

Although premarital cell screening programs have a high potential to reduce the incidence of SCD in an adult population and preventing marriages among high-risk couples, many people do not still practice it.^[15] Therefore, this research focuses on what knowledge the adults residence of Naraguta village has toward premarital sickle cell screening and what their attitude is toward premarital sickle cell screening.

Statement of the problem

Studies have reported that more than half of married couples enter into marriage unaware of their hemoglobin genotypes. This may account for the reported 2% annual births of children with SCD in most developing countries. Children are born with SCD possibly because parents may have entered into marriage without prior knowledge of their sickling status.^[4] Alam^[16] stated that, despite current advances in diagnosis and the increasing campaigns through mass media and health professionals, all are supposed to increase people’s knowledge of premarital sickle cell screening and counseling with a view to cause a drop in high-risk marriages. However, this is not always the case as

many people go into marriage without having insight into their genotype, especially in developing countries where diagnosis is usually made when the individual presents in the clinic with severe complications.^[9] In addition, lack of knowledge and poor attitude toward premarital cell screening before marriage has led to birth of a child with the disorder, separation and divorce among parents, frequent going in and out of the hospital, and infant mortality and morbidity.^[17]

Although premarital cell screening programs has a high potential to reduce the incidence of SCD in an adult population and preventing marriages among high-risk couples, many people do not still practice it. Therefore, this research focuses on what knowledge the adults residence of Naraguta village has toward premarital sickle cell screening and what their attitude is toward premarital sickle cell screening.

Objective of the study

The general objective of this study is to assess the knowledge and attitude toward premarital sickle cell screening for sickle cell diseases among adults residence of Naraguta village.

The specific objectives of this study include:

1. To assess the knowledge of married and unmarried adults residence of Naraguta village toward premarital sickle screening.
2. To determine the attitude of married and unmarried adults residence of Naraguta village about premarital sickle cell screening.
3. To identify unmarried adults residence of Naraguta village willingness to go for sickle cell screening before marriage.

Operational definitions of terms

1. Premarital sickle cell screening refers to test done by adult male and female residence of Naraguta village to know their status on the sickle cell genetic trait before going into marriage.
2. Knowledge of premarital sickle cell screening refers to whether adult residence of Naraguta village has low or high knowledge of premarital sickle cell screening, with regard to the awareness of premarital sickle cell screening, when it should be done, benefits of going for premarital screening before marriage, and dangers of not adhering to premarital sickle cell screening.
3. Attitude to premarital sickle cell screening refers to favorable and unfavorable feelings and beliefs of adult residence of Naraguta village toward premarital sickle cell screening, which can either be positive attitude or negative attitude. Positive attitudes are the respondents that agree or strongly agree that premarital screening is one of the ways to reduce disease burden in the family, premarital screening is necessary once the couples have

agreed to marry and should be made compulsory. While negative attitudes were the respondents that said that premarital screening will increase the chances of one not getting married and will expose their status to the public,

4. Adult refers to a fully mature developed person whom have reached the age where they are legally responsible for their action residing in Naraguta village.

Protection motivation theory

Protection motivation theory was originally developed to test how fear influenced individuals to change their health behavior. It was proposed by R. W. Rogers in 1975 to better understand fear appeals and how people cope with them. However, Dr. Rogers later expand on the theory in 1983 where he extended the theory to a more general theory of persuasive communication. The theory was originally based on the work of Richard Lazarus who researched on how people behave and cope during stressful situations.

This theory proposes that motivation intention to engage in health protecting behavior depends on multiplication of the concept of perceived severity of ill health, the perceived possibility of the occurrence of ill health, and likelihood of protective behavior to avert the ill health. Additional determinant of protection activation theory has been added to this theory which includes the concept of self-efficacy which is the belief in one's ability to execute the recommended courses of action successfully.^[17,14] The central hypothesis is that motivation to protect health stems from the linear function of the perceived severity of a threatening event, the perceived probability of the occurrence or vulnerability, the efficacy of the recommended preventive behavior, and the perceived self-efficacy.

Research design

A cross-sectional descriptive survey design was used for the study. The design according to Alam,^[16] it can be used to investigate events as it occurs in their natural settings.

Area of the study

The study was carried out in Naraguta village Jos North Local Government area of Plateau state. The village is known for leather work hence Naraguta Leather Work in Naraguta village, Jos. It has five divisions which include Angwan Majini where clay is been produced, Kwankwado where most of the household are located, Magajinrafi where farmers plant their crops, Sarki bunu division which is the place for the former head of the community, and Angwan Majema where people produce leather husk. Naraguta village is known household name in Plateau state mostly dominated by the Muslims and they engage in quality works as seen in the shoes, slippers, and other colorful leather products. The success story of

the leather industry, which has put the name of the village on regional and global map, started with one man's vision in 1978 and has a population of about 13,000 people. In Naraguta village, a known rural setting where their social and cultural practice is like that of the olden days, it was that they do go into marriage without knowing their genetic status because they perceived going to the hospital for premarital sickle cell screening is of no importance to them.

Population of the study

Population of study is the whole target population or a general population who share common characteristics. Therefore, the target population for this research include all the married and unmarried adult residence living in Naraguta village and their total number is about 6000 adults residence as obtained from the chief of Naraguta village.

Sample

The proportion of a population to be studied is called sample of a population. For the purpose of this study, percentage approach will be used to determine the sample size. Using 5% of the target population,
 $5/100 \times 6000 = 300$ adult residence
 Therefore, the sample size of the population of this study is 300 adults residence.

Sampling procedure

Stratified random sampling procedure was used in selecting the participant of the study. This technique was employ to ensure a fairly equal representation of the participant of the study. Naraguta village was divided into stratum, namely, Angwan Majina, Kwankwado, Sarki bunu Magajinrafi, and Angwan Majema. Participant was conveniently selected from each of the stratum for the study.

Research instrument for data collection

The study utilized a structured interview and questionnaire to evaluate the knowledge and attitude of adult residence toward premarital sickle cell screening for sickle cell disorder. A structured interview method was used using a questionnaire as guideline will be used to elicit responses from the adult illiterates of Naraguta village while a structured questionnaire was used to elicit responses from the adult literates of Naraguta village. The questionnaire was divided into five sections, namely, A, B C, D, and E. Section A contains information on demographic characteristics of each adult, B assesses the knowledge of the adults of Naraguta village toward premarital sickle cell screening, C determines the attitude of the adults residence of Naraguta village toward premarital sickle cell screening, D identifies unmarried adults of Naraguta village that is willing to go for premarital sickle cell screening, and

E identifies married adults of Naraguta village that went for premarital sickle cell screening before marriage.

Validation of instrument

The validity of an instrument is the degree to which an instrument measures what it is supposed to measure.^[18] It connotes trustworthiness of an instrument. The questionnaire that used for this study will be subjected to face and content validity. Instrument used in collecting data for the study is a descriptive self-structured questionnaire.

Reliability of instrument

Reliability is the measure of degree to which a research instruments yield consistent results on data after repeated trials.^[18] Reliability was determined using test-retest method where questionnaires was administered twice over a period of time to the same respondents and then responses from first administration are compared through correlation with the later responses.

Method of data collection

Data were collected using structured interview method and face-to-face administration of questionnaire to the respondents by the researcher and on completion, it was retrieved back. The researcher was assisted by research assistant who was trained by the researcher.

Method of data analysis

The data collected from the adults residence of Naraguta village were analyzed using descriptive statistics and presented in frequency and percentages tables which were used to answer the research questions while inferential statistics were used to test the research hypotheses at 0.05 level of significance.

Ethical consideration

The approval was used to obtain permission from the chief of Naraguta village gate keepers. The objective of the study was explained to the identified subjects, verbal consent was also obtained from the respondents before administering the questionnaires. Data collected were treated with utmost confidentiality and names of the respondents were not required to ensure anonymity.

Discussion of finding

Table 1 shows that out of the 300 participants, 112 (37%) were male while 128 (43%) were female. Majority of the participants 161 (53%) fall within the age bracket of 18–30 years, 98 (33%) adult aged 31–40 years, 27 (9%) aged 41–50 years, and 14 (5%) aged 50 years and above. Majority

289 (96%) were Christians and 11 (4%) Muslims.

A larger proportion of the adult were single, 179 (60%), compared to the 121 (40%) that were unmarried. Eighty-four (22.7%) of the students agreed that they have a history of sickle cell disease in their families, 282 (94%) said that they do not have a family history of sickle cell diseases while 5 (2%) said that they have a family history of sickle cell diseases while 16 (5%) did not know whether they have it or not.

Decision rule [Table 2]

Level of knowledge	Frequency	Percentage
High level of knowledge	86	29
Low level of knowledge	214	71

Table 2 shows that 214 (71%) have low level of knowledge of premarital sickle cell screening, while 86 (29%) have high knowledge of premarital sickle cell screening.

Summary of responses on attitude toward premarital sickle cell screening [Table 3].

Variables	Frequency	Percentage
Necessity		
Strongly agree/agree	91	30
Strongly disagree/disagree	209	70
Reduce burden		
Strongly agree/agree	117	39
Strongly disagree/disagree	183	61
Against religious belief		
Strongly agree/agree	13	4
Strongly disagree/disagree	287	96
Increases chances of not getting married		
Strongly agree/agree	167	57
Strongly disagree/disagree	133	44
Waste of time and resources		
Strongly agree/agree	174	58
Strongly disagree/disagree	126	42

Table 3 shows that most of the respondents 209 (70%) disagreed that premarital sickle cell screening is necessary, once couple have decide to marry, while 91 (30%) agreed that premarital sickle cell screening is necessary, once couple have decide to marry. One hundred and sixty-seven (57%) agree that premarital sickle cell screening increases their chances of not getting married while 133 (44%) disagree that premarital sickle cell screening increases their chances of not getting married. Furthermore, most of the respondent 174 (58%) believe that premarital sickle cell screening is a waste of time and resources while few of them 126 (42%) believe that it not a waste of time and resources.

Table 4 shows to identify unmarried adult residence of Naraguta village that are willing to comply to premarital sickle cell screening before marriage.

Table 4 shows that 78 (65%) of the unmarried respondents stated that they would go for premarital sickle cell screening compared to 43 (36%) who said that they would not go for

Table 1: Demographic characteristics of the respondents (n=300)

Gender		
Male	112	37
Female	128	43
Age		
18–30	161	53
31–40	98	33
41–50	27	9
50 and above	14	5
Marital status		
Single	179	60
Married	121	40
Religion		
Christianity	11	4
Islam	289	96
Family history of sickle cell disease		
Yes	5	2
No	282	94
Do not know	16	4

the screening. Fifty-three (76%) of those who would like indicated that they will prefer to do it together with their spouse while a few of them 17 (24%) objected. Eleven (32%) stated that they will still marry their spouse no matter the result while 23 (68%) indicated that they will not marry their spouse no matter the result.

Table 5 shows that few of the married adult 28 (18%) did premarital sickle cell screening before marriage, while most of them 151 (84%) did not. Eleven (31%) did the test during marriage counseling. Thirteen (36%) did the screening test before they met their spouse, 9 (25%) did it during courtship, and 3 (8%) just did the test when their first child became sickly. To identify married adult residence of Naraguta village that comply to premarital sickle cell screening before marriage. Table 6 shows the possible reasons that prevented the married adult residence of Naraguta village from going for premarital sickle cell screening. The most frequent reason was that they felt that it was waste of time and resources and therefore not necessary 70 (53%), followed by lack of knowledge of the consequences of not going for premarital, sickle cell screening 43 (33%), and few of them said that it was costly 12 (9%) followed by 5 (4%) who said that it was fear of losing their spouse and 1 (1%) who responded that their religion faith does not allow them.

Hypothesis testing

Hypothesis 1: There is no significant relationship between knowledge and attitude toward premarital sickle cell screening among adult resident of Naraguta village

The calculated Chi-square at 0.05 level of significance for 5° of freedom and critical value of 3.841 is <18. Since the calculated Chi-square^[1] is greater than the critical value of 3.841, the null hypotheses state that there is no

Table 2: Responses on knowledge of premarital sickle cell screening among adult residence of Naraguta village

Question	Options	Yes (%)	No (%)	Do not know (%)
1. What do you understand by premarital sickle cell screening	a. Test done before marriage to rule out any abnormality in the blood	84 (28)	23 (8)	193 (64)
	b. Test that reveals the level of malaria in the blood	49 (16)	71 (24)	180 (60)
	c. Test done before marriage to rule out sickle cell disorder	93 (31)	22 (7)	185 (62)
2. When should premarital sickle cell screening be done	a. Just before marriage or during courtship	97 (32)	25 (8)	178 (59)
	b. After marriage	21 (7)	80 (27)	199 (66)
	c. Immediately after delivery	37 (12)	82 (27)	181 (60)
	d. When couples gave birth to a Sickler	47 (16)	98 (33)	155 (52)
3. What is the benefits of premarital sickle cell screening	a. Helps to detect abnormalities in couples early before marriage	81 (27)	51 (17)	168 (56)
	b. Helps to prevent having a child with sickle cell disease	93 (31)	47 (16)	160 (53)
	c. Helps to expose the genetic status of an individual to the public before marriage	43 (14)	77 (26)	180 (60)
	d. Has no benefits	57 (19)	96 (32)	147 (49)

Table 3: Responses on attitude toward premarital sickle cell screening

Questions	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
1. Premarital sickle cell screening is necessary once the couples have agreed to marry	27 (9)	64 (21)	118 (39)	91 (30)
2. Premarital sickle cell screening is one of the ways to reduce disease burden in the family	52 (17)	65 (22)	89 (30)	94 (31)
3. Premarital sickle cell screening is against my religious/cultural belief	9 (3)	4 (1)	205 (68)	82 (27)
4. It increases the chances of one not getting married	101 (34)	66 (22)	70 (23)	63 (21)
5. It is a waste of time and resources	106 (35)	68 (23)	76 (25)	50 (17)

Table 4: Responses on willingness to comply to premarital sickle cell screening by the unmarried adult

Questions	Yes	No
1. Would you like to go for premarital sickle cell screening before marriage?	78 (65)	43 (36)
2. If your answer to question “14” is yes, will you prefer to do the test together with your intending spouse?	53 (76)	17 (24)
3. Will you still marry your spouse after the test, no matter the result	11 (32)	23 (68)

Table 5: Reasons for not complying to premarital sickle cell screening among married adult before marriage

Items	Frequency	Percentage
1. If no to question “18” what are the factors that prevented you from not doing the screening?		
a. Felt it was wasting of time and therefore it was not necessary		
b. It is costly	70	53
c. My religion does not allow it	12	9
d. Fear of losing my spouse	1	1
e. Lacked knowledge of the consequences of not doing premarital sickle cell screening	43	33

significant relationship between knowledge and attitude toward premarital sickle cell screening among the adult residence of Naraguta village is rejected. Therefore, this demonstrated that, there is a significant relationship between knowledge and attitude toward premarital sickle cell screening.

Hypotheses 2: There is no significant relationship between attitude and compliance to premarital sickle cell screening by married and unmarried adult

The calculated Chi square at 0.05 level of significance for 1° of freedom and critical value of 3.841 is <18. Since the calculated Chi-square (75) is greater than the critical value of 3.841, the null hypotheses state that there is no significant relationship between attitude and compliance to premarital sickle cell screening among the adult residence of Naraguta village is rejected. Therefore, there is a significant relationship between attitude and compliance toward premarital sickle cell screening among the married and unmarried adult of Naraguta village.

DISCUSSION

The findings of this study revealed that out of the 300 participants, 112 (37%) were male while 128 (43%) were female. Majority of the participants 161 (53%) fall within the age bracket of 18–30 years, 98 (33%) adult aged 31–40 years, 27 (9%) aged 41–50 years, and 14 (5%) aged 50 years and above. Majority 289 (96%) were Christians and 11 (4%) Muslims. A larger proportion of the adult was single, 179 (60%), compared to the 121 (40%) that were married. Of all participants, 84 (22.7%) of the participants agreed that they have a history of sickle cell disease in their families, 282 (94%) said that they do not have a family history of sickle cell diseases, while 5 (2%) said that they have a family history of sickle cell diseases while 16 (5%) did not know whether they have it or not.

Table 6: Relationship between knowledge and attitude toward premarital sickle cell screening

Level of knowledge	Attitude		Total
Low level of knowledge	118	91	209
High level of knowledge	27	64	91
Total	145	155	300

Chi-square (X^2)=18, P =0.05, Degree of freedom (df)=5, Critical value=11.071

Table 7: Responses of married adult that comply to premarital screening before marriage

Questions	Yes	No
1. Did you go for premarital sickle cell screening before marriage	28 (18)	151 (84)
2. If yes to question "18," when did you do it?		
a. During marriage counseling		11 (31)
b. Before I met my spouse/partner		13 (36)
c. During courtship		9 (25)
d. After my first child born was sickly		3 (8)

Table 8: Relationship between attitude and compliance to premarital sickle cell screening

Attitude	Compliance and willingness to compliance		Total
Negative	151	43	194
Positive	28	78	106
Total	179	121	300

Chi-square (X^2)= 75, P =0.05, Degree of freedom (df)=5, Critical value=11.071

In determining the knowledge of premarital sickle cell screening for married and unmarried adult

The findings of the study revealed that 214 (71%) have low level of knowledge of premarital sickle cell screening, while 86 (29%) have high knowledge of premarital sickle cell screening. In assessing the attitude toward premarital sickle cell screening, the result of the study revealed that most of the respondents 209 (70%) disagreed that premarital sickle cell screening is necessary, once couple have decide to marry, while 91 (30%) agreed that premarital sickle cell screening is necessary, once couple have decide to marry. One hundred and sixty-seven (57%) agree that premarital sickle cell screening increases their chances of not getting married while 133 (44%) disagree that premarital sickle cell screening increases their chances of not getting married. Furthermore, most of the respondent 174 (58%) believe that premarital sickle cell screening is a waste of time and resources while few of them 126 (42%) believe that it not a waste of time and resources.

In identifying the unmarried adult that would comply to premarital sickle cell screening before marriage, the findings of the study showed that 78 (65%) of the unmarried respondents stated that they would subscribe to premarital sickle cell screening compared to 43 (36%) who said that they would not go for the screening. Fifty-three (76%) of those who would like indicated that they will prefer to do it together

with their spouse while a few of them 17 (24%) objected. Eleven (32%) stated that they will still marry their spouse no matter the outcome of the result while 23 (68%) indicated that they will not marry their spouse no matter the result. The most frequently given reason was that the screening is seen as waste of time and resources 20 (42%), followed by the screening test being costly 11 (23%), followed by fear of cancelling their marriage 7 (15%), and the view of not wanting the public to know one's genotype 4 (8%). The least cited reason was that their religion faith does not allow it 0 (0%).

In identifying the married adult that comply to premarital sickle cell screening before marriage, the findings of the study revealed that few of the married adult 28 (18%) did premarital sickle cell screening before marriage, while most of them 151 (84%) did not, 11 (31%) did the test during marriage counseling, 13 (36%) did the screening test before they met their spouse, 9 (25%) did it during courtship, and 3 (8%) just did the test when their first child became sickly. Among the married adult that did not comply to the screening, the most frequent reason was that they felt that it was waste of time and resources and therefore not necessary 70 (53%), followed by lack of knowledge of the consequences of not going for premarital, sickle cell screening 43 (33%), and few of them said that it was costly 12 (9%) followed by 5 (4%) who said that it was fear of losing their spouse and 1 (1%) who responded that their first child became sickly (Table 7 and 8).

Objective 1: Knowledge of premarital sickle cell screening among married and unmarried adult residence of Naraguta village

A large majority (71%) of the adult residence of Naraguta village had very low knowledge of premarital sickle cell screening, and never understood that it is to be a test done before marriage or during courtship to rule out sickle cell disease.

The decreases in the level of knowledge among them may be attributed to the fact that they lack knowledge of the consequences of not going for premarital sickle cell screening.^[11] This finding is in consistent with the findings of Muganda^[5] on knowledge and practice of premarital sickle cell screening which reveals that there was a great lack of knowledge of premarital sickle screening among most of the respondent in the first study; however, during the subsequent studies after self-investigation about premarital sickle cell screening by the respondent, there was increased level of knowledge of premarital sickle cell screening and acceptance of couple toward premarital sickle cell screening. Furthermore, this finding does not correlate with the findings of Gharaibeh^[4] on the knowledge and attitude of premarital sickle cell screening where most of the participants (79%) were aware of premarital screening and their main source of information was school. This also reflects the importance of health education as a key store of improving knowledge of students about premarital sickle cell screening.

Objective 2: Attitude toward premarital sickle cell screening among married and unmarried adult residence of Naraguta village

The assessment of the attitude toward premarital sickle cell screening among adult of Naraguta village showed that there was a negative attitude toward premarital sickle cell screening, as an overwhelming (70%) number disagreed and strongly disagreed that sickle cell screening is necessary, once the couples have agreed to marry. The above findings are not in consistent with the findings of a study conducted by Rogers,^[1] where the attitude of students toward premarital screening was generally positive as majority of the students (85.9%) saw the importance of premarital sickle cell screening in controlling the commonest hereditary diseases. Furthermore, in this finding, large majority of the respondents disagree that premarital sickle cell screening reduces disease burden in the family and agreed that it is a waste of time and resources. This implies that adult respondent who responded negatively to premarital sickle cell screening has an unfavorable attitude toward premarital screening and sees it as an unnecessary. These findings are in support with similar studies conducted by Rogers,^[10] on attitude of genetic screening among students were about 38% of the students still had negative attitude toward premarital counseling and testing. It also correlates with similar findings of Gharaibeh^[4] who observed that utilization of premarital sickle cell screening is still very low due to different beliefs of the student. Therefore, health-care centers targeted at health for all should be built in Naraguta village to provide premarital sickle cell screening services to them and also health education programs about the benefits which should be targeted toward the vulnerable groups to enable them make informed decisions before getting married.

In spite of the negative attitude by most of the respondent, few still had positive attitude as they view premarital sickle cell screening which has being necessary. This finding correlated with the findings of the World Health Organization^[6] which reveals that many of the adult students had positive attitude toward premarital sickle cell screening.

Objective 3: Adult residence of Naraguta village that would like to comply to premarital sickle cell screening before marriage

Majority of the unmarried adult (65%) respondents indicated their intention to comply, and the vast majority of them agreed to do it together with their intending spouse. This showed their level of interest and willingness to carry out any blood investigation, to maintain healthy living in their marital homes. This finding is supported by the finding of a study conducted by Gharaibeh,^[4] in their study among unmarried adult with both genders where the vast majority of unmarried participants thought that it was important to do premarital sickle cell screening and agreed to do it together

with their intending spouse. It was also observed that the percentage of the unmarried adult student in this study who intends to go for premarital sickle cell screening is more than the percentage of married adult students who did the test before marriage. This may be attributed to the fact that many of the married adult students did not have the knowledge of premarital sickle cell screening before marriage and also lacked the knowledge of the consequences.

Few of the respondents (36%) that are not willing to go for the screening indicated that the test is costly. This indicates what might prevent them from not going for the screening in future. This is rooted to the fact that even though premarital sickle cell screening has a lot of benefits but not everybody is willing to do it because of the cost attached to it in health care center. This finding does not correlate with the findings of the World Health Organization^[6] on knowledge, attitude, and adherence to premarital sickle cell screening which reveals that majority of the unmarried students that are not willing to go for the screening cited their reasons as stigmatization that follows a positive individual and fear of exposing ones genetic status to the public, having fear that the marriage will be cancelled and that their family will be against such marriage.

Objective 4: Married adult that comply to premarital sickle cell screening

Majority of the married respondent (72%) did not comply to premarital sickle cell screening and vast number of them indicated that they felt that it was time wasting and therefore not necessary followed by lack of knowledge of premarital sickle cell screening and its consequences before marriage.

The fact that some of the married respondent did not see premarital screening as something important may be due to the fact that they were not favorable by disposed to it, and again, these groups of people were already married and may not take it serious knowing more about it.

The findings of this study were supported by the finding of a study conducted by the World Health Organization,^[6] which revealed that the percentage of unmarried student that indicated willingness to go for the screening test is higher than the percentage of married adult that went for the screening test.

Relationship between knowledge and attitude toward premarital sickle cell screening among adult residence of Naraguta village

In testing hypothesis, with regard to Chi-square analysis, the null hypothesis that states there is no significant relationship between knowledge and attitude toward premarital sickle cell screening for the adult residence of Naraguta village is rejected.

The findings showed that there was a significant relationship between knowledge and attitude to premarital sickle cell

screening among adult residence of Naraguta village. The implication of this finding is that if they have decrease knowledge of premarital sickle cell screening, there is probability it could lead to them having negative attitude toward premarital sickle cell screening. This indicates that if educational programs about premarital sickle cell screening are put in place, it will change their negative to positive toward premarital sickle cell screening. Therefore, there is a need for more education on this group of people so that the high knowledge will be equivalent to their positive attitude.

Relationship between attitude and compliance to premarital sickle cell screening among married and unmarried adult residence of Naraguta village

In testing hypothesis, with regard to Chi-square analysis, the null hypothesis that states that there is no significant relationship between attitude and compliance to premarital sickle cell screening for the married adult and the unmarried adult residence, respectively, is rejected. Therefore, the result of this study showed that there was a significant relationship in the attitude and level of compliance and willingness to compliance to premarital sickle cell screening among unmarried and married adult students, respectively. This shows that as the number of people with negative attitude increases, their intentions to comply will also decrease.

It was also observed that few of the residence were favorably disposed to premarital sickle cell screening and utilized the knowledge, guidance, and advice they gather before marriage. The findings of this study is in contrast with the research outcome of a study conducted by,^[19] that, the knowledge and attitude of university student towards premarital sickle cell screening were good as demonstrated by the majority of the respondents with good knowledge and the benefit of sick

le screening and genetic counselling, and had a positive attitude towards sickle cell screening and genetic counselling. The result of the study reflects the importance of health education as a key stone in improving the knowledge and attitude of both the married and unmarried adult residence of Naraguta village toward premarital sickle cell screening.

Conclusion

The study revealed low level and knowledge and negative attitude toward premarital sickle cell screening. Sickle cell disorder is a known genetic disease characterized by inheritance of abnormal gene which interferes with normal body function and leads to frequent hospitalization for the treatment and death of the affected person, especially in resources limited developing countries like Nigeria. Considering the associated health problem, it could be emphasized that imbibing the culture of premarital sickle cell screening by intending couples is the most cost-effective intervention that could end the threat of genetic disorder.

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