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AWARENESS OF SICKLE CELL DISEASE IN ILORIN, KWARA STATE NIGERIA. IMPLICATION FOR COUNSELLING PRACTICE

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Abstract

A study was conducted to ascertain the awareness level of illiterates on sickle cell anaemia disease in Ilorin metropolis. A descriptive survey method was used in this study. A total of 420 respondents were randomly selected from four purposively selected Local Governments Areas (LGAs) in Ilorin metropolis, Nigeria. Data were collected through the administration of a questionnaire. Responses from the respondents were analyzed using percentages, mean, frequency, Analysis of Variance (ANOVA) and t-test statistical tools. The null hypotheses were tested at 0.05 alpha level. The study shows that there was no significant difference (P<0.05) in the awareness level of respondents on the awareness level of sickle cell anaemia on the basis of gender, age and religion. However, a significant difference was observed on the basis of marital status. The outcome of this study revealed that 83.8% of the respondents are aware of the disease but deficient in causes, treatment and prevention of the disease. Based on the findings, it is recommended that counsellors should organize enlightenment programmes among the illiterates as there is evidence that majority of respondents need information on the causes and prevention of sickle cell anaemia.

Keywords: Illiterates, Sickle Cell, Anaemia, Knowledge and Level.

Introduction

In the time past many parents lose their children in quick succession and this was often attributed to the negative influence of unseen spirits. With the advent of modern technology, it was discovered that most of these children die as a result of sickle cell disease (Azuka, 2014). In the red blood cell are substances called haemoglobin which carry oxygen from lungs to the different parts of the body and because the blood circulates, oxygen is often circulated through the body. Individuals with this problem have banana-shaped red blood cells. When sickle red corpuscles become wedged in the capillaries thereby blocking local blood flow, the sickle cell haemoglobin molecules forms a pseudo crystalline structures known as tactoids. Sickle cell anemia is a disease of the blood inherited from parents. Geller (2008) described sickle cell anaemia as an inherited

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abnormality where the red blood cells have an abnormal type of haemoglobin called heamoglobin S Sickle cell anemia is a major disorder in the human blood system and it has been reported to affect a great number of people. The disease contributes significantly to mortality rate in Nigeria. Apart from being accompanied by jaundice, other signs of the disease include paleness of the body (due to shortage of red blood cells in the body), yellowness of the eyes (when red blood cell are rapidly destroyed resulting into jaundice) and large tummy. A person with sickle cell disease may have recurrent episodes of acute illness referred to as crises (Adedoyin, 1990). Sickle cell disease is common among Africans and Mediterranean descent. It is also seen in people from South and Central America, the Caribbean and the Middle-East (Geller, 2008). There are three categories of sickle cell disease which include hemoglobin SS, hemoglobin SC and hemoglobin SB.

In a study carried out by Olubiyi, Ajiboye, Olubiyi and Abioye (2013) the researchers explained that 16% of the under five deaths in West Africa is caused by sickle cell anemia disease while 5% of the world population carries the genes responsible for haemoglobin pathies Jaffer, Amrallah, Ali, Muhammed, Hasan and Humood (2009) revealed that worldwide, 300,000 children are born with sickle cell disease every year. Umoh and Akinola (2000) discovered that out of 500 million suffers all over the world, Nigeria accounts for about 30 million. They also explained that two out of every one hundred births at the maternity wing of University of Ilorin Teaching Hospital have sickle cell anaemia and that majority of uneducated people in Ilorin metropolis are ignorant about the disease.

Oyewale (2006) explained that sickle cell disease is high in Ilorin and that this affects about 10,000 of all births. It was discovered that 22.8% of children between the ages of one month to fourteen years have haemoglobin AS and SC. The researcher affirmed that most illiterates in Ilorin have some form of information about the disease but they are ignorant about the causes and complications that accompany sickle cell anaemia disease. They tend to attribute the cause of this disease to witches and as such parents neglect children with sickle cell disease to their fate. This finding corroborates the view of Okesina (2003) that due to ignorance of the general populace in Ilorin, sickle cell anaemia was regarded as a disease caused by evil spirits. Among the illiterate's population, witches and wizards were also believed to be the cause of the disease. Obadofin (1994) stated that the incidence of this disease is high in Ilorin, Kwara State, due to inadequate information about sickle cell anemia disease. On the other hand, Kofi (2010) observed that there was positive attitude and high level of knowledge about sickle cell disease among the literate population

in Nigeria. Alao (2009) also agreed that most people at one time or the other have heard about sickle cell disease. Despite the level of awareness, the cure and control of this disease still elude clinicians, research workers and scientist (Kofi, 2010).

Statement of the Problem

Sickle cell anemia is one of the commonest health problems around. In Nigeria, individuals with sickle trait make up to about 25-30% of the population (Eboniyi and Fakeye, 1997). Kabiti (2008) explained the recurrent illness, trauma, severe morbidity experienced by those that have sickle cell anaemia disease. Okesina, (2003) stated that due to ignorance of the general populace, sickle cell anemia was regarded as a diseases caused by evil spirit. In some communities, sufferers are regarded as *Ogbanje* or *Abiku*. Among the illiterate population, parents are unable to distinguish between the clinical symptoms of sickle cell disease and malnutrition. Some uneducated people attribute sickle cell disease to having been hit in a dream with a farmer's sickle. According to Oyewole, (2006), the genetic blood disorder is very common in Ilorin where it affects over 10,000 of all births. This is alarming and calls for some form of control to avert future disaster.

Earlier studies on sickle cell anemia include; Okesina, (2003) who worked on impacts of sickle cell anemia and counselling needs of sicklers and Joel (2011) investigated on parental attitude towards children with sickle cell disease. Researchers seem not to be interested in target population i.e. the knowledge level of sickle cell anemia among the illiterates. This is important because awareness of sickle cell anemia is not only vital but could lead to a decrease in reproduction of children with sickle cell anemia traits.

Purpose of the Study

The purpose of this study was to investigate the Awareness level of illiterates on sickle cell anemia. Also the study investigated whether gender, age, religion and marital status have profound influence on the knowledge level of illiterates in Ilorin metropolis.

Research Question

1. What is the awareness level of sickle cell disease among the illiterates in Ilorin metropolis, Nigeria?

Research Hypotheses

The following research hypotheses were tested:

1. There is no significant difference in the awareness of illiterates on sickle cell disease on the basis of gender
2. There is no significant difference in the awareness of illiterates on sickle cell disease on the basis of age.
3. There is no significant difference in the awareness of illiterates on sickle cell disease on the basis of religion.
4. There is no significant difference in the awareness of illiterates on sickle cell disease on the basis of marital status.

Methodology

Research Design

The research design adopted for this study was the descriptive survey method. The design allows the researcher to collect data and describe it in a systematic manner (Adana, 1996). This comprised of all the illiterates in Kwara State. Samples of 420 respondents were selected from the population, using the sample size determination table (Research Advisor, 2006). The population size of 250,000 at confidence level of 95% and margin error of 5.0% should have a total of 398 respondents. The total population size of illiterates in Ilorin metropolis is 200651 (National population Census, 2006). As such the researcher decided to use four hundred and twenty (420) respondents. The participants were selected from the four Local Government Areas that make up Ilorin metropolis; this includes Ilorin East, Ilorin South, Ilorin West and Asa. The cluster sample technique was used to select respondents in areas where illiterates are predominant. Also, simple random sampling technique was employed to select 105 participants from each of the local government on the basis of gender, age, religion and marital status.

Psychometric Properties

Instrumentation

The major instrument used in gathering data for this study was titled "Knowledge Level of Illiterates on Sickle Cell Questionnaire" (KLISCQ). Items on this instrument were self-designed questionnaire derived from the review of related literature. These items were adapted. The instrument has two sections, A and B. Section A contained demographic data

while section B consisted of items on the knowledge level of sickle cell anemia. The 4 point Likert type rating scale response format was adopted for use on section B as thus:

Strongly Agree	-	(SA)	-	4 points
Agree -	-	(A)	-	3 points
Disagree	-	(D)	-	2 points
Strongly Disagree	-	(SD)	-	1 point

The questionnaire contained 24 items. Interview method was used to collect demographic data while the rest other part of the questionnaire was read to them. Through the help of research assistants, the items on the questionnaire were read and explained to the respondents, after which they were assisted to tick one of the following alternatives: strongly agree, agree, disagree and strongly disagree. The highest possible score and respondents could obtain is 96 (i.e. 4 x 24) while the lowest possible score is 24 (i.e. 1 x 24). Therefore, the range is 72 (i.e. 96 – 24). The midpoint of range is 36 (72/2). The cut-off point is therefore 96 – 36 (i.e. maximum score minus the midpoint of the range) or 24 + 36 (i.e. the minimum score plus (+) the midpoint of the range), in which either the case is 60.

According to Stangor (2004) an instrument is valid when it measures what it purports to measure. In view of this, the questionnaire was given to four experts in the in the related field of study. The experts affirmed that the instrument covered the intended contents and therefore valid for use.

The reliability of the instrument was established using test-retest method within an interval of four weeks. The instrument was administered to 20 illiterates in Ilorin-East Local Government in which these respondents did not form a part of the final respondents used for the study. The Pearson Product Moment Correlation Coefficient was used to compute the correlation co-efficient of the instrument. A reliability co-efficient of .74 was obtained. Hence the instrument was statistically reliable.

The researcher employed both descriptive and inferential statistics for the data analysis. Frequency counts and simple percentages were used for the descriptive statistics while mean scores and ranking were used to answer the main research question.

Results

The table below shows the demographic data of the respondents.

Table 1: Distribution of Respondents by Personal Data

Variable	Frequency	Percentage (%)
Gender		
Male	214	51.0
Female	206	49.0
Total	420	100
Age		
18 - 26 years	158	37.6
27 - 35 years	204	48.6
36years and above	58	13.8
Total	420	100
Religion		
Christianity	172	41.0
Islam	227	54.0
ATR	21	5.0
Total	420	100
Marital Status		
Single	172	41.0
Married	248	59.0
Total	420	100

Table 1 shows the distribution of respondents who participated in the study. The table indicated that 214 (51%) of the respondents were males, while 206 (49%) of the respondents were females.158 (37.6%) of the respondents were between the ages of 18 – 26 years, 204 (48.6%) of the respondents were between the ages of 27 – 35 years, while 58 (13.8%) of the respondents were 36 years and above. On the basis of religion, 172 (41%) of the respondents were Christians, 227 (54%) were Muslims, while 21 (5%) were of the African Traditional Religion (ATR). On the basis of marital status, 172 (41%) were single, while 248 (59%) were married.

Table 2: Mean Scores and Rank Order on Awareness Level of Illiterates on Sickle Cell

Item	I know that sickle cell anemia:	Mean	Rank
1	is a killer disease	3.29	1st
24	patients may have recurrent episodes of acute illness referred to as crisis	3.20	2nd
23	patient exhibit some signs like yellowness of the eyes and large tummy	3.19	3rd
22	patients encounter a lot of unhealthy crisis	3.11	4th
2	can be genetically transferred	3.09	5th
19	disease can be diagnosed in the hospital through taking blood samples	3.03	6th
21	is a disease of the red blood	3.02	7th
20	drugs used by sickle cell patients can only control the infection but cannot cure it	3.02	7th
15	patients need high intake of folic acid	2.96	9th
12	patient can live long if they have access to good medical care	2.93	10th
5	is common in Nigeria	2.81	11th
11	diseases can be cured by some traditional medicines	2.76	12th
9	disease can cause anemia	2.75	13th
14	patients can live a healthy life by adhering to good diet intake as instructed by the doctor	2.75	13th
8	disease can lead to a short life span	2.72	15th
13	diseases can cause pains at the joints alone	2.70	16th
16	is common among rich and poor people in the urban area	2.57	17th
6	patient should not worry about sickle cell disease	2.48	18th
18	disease is more serious in men than women	2.48	18th
17	disease can disappear when you appease the gods	2.47	20th
3	is usually caused by witchcraft	2.46	21st
10	disease can be cured by medical doctors	2.45	22nd
7	patient can marry a partner with the same problem and have healthy children	2.36	23rd
4	is contagious	2.34	24th

Table 2 shows the item-by-item analysis by rank order of the awareness level of illiterates on sickle cell. The table indicates that item 1 with a mean score of 3.29, ranked 1stwhich states that "I know that sickle cell anemiais a killer disease". Ranked 2ndby the respondents were item 24 with a mean score of 3.20. This item states that "I know that sickle cell

anemia patients may have recurrent episodes of acute illness referred to as crisis". Ranked 3rd was item 23 with a mean score of 3.19 and it states that "I know that sickle cell anemia patient exhibit some signs like yellowness of the eyes and large tummy". However, item 10 with a mean score of 2.46 ranked 22nd and it states that "I know that sickle cell anemia disease can be cured by medical doctors". Ranked 23rd was item 7 with a mean score of 2.36 and it states that "I know that sickle cell anemia patient can marry a partner with the same the same problem and have healthy children". Item 4 with a mean score of 2.34 was ranked 24th and it states that "I know that sickle cell anemia is contagious".

Research Question 1: What is the awareness Level of Illiterates on Sickle Cell Anaemia

Table 3: Distribution of Respondents by Awareness Level on Sickle Cell

Level	Frequency	Percentage %
High	352	83.8
Low	68	16.2
Total	420	100

Table 3 shows the awareness level of illiterates on sickle cell. 352 (83.8%) illiterates have a high level of awareness on sickle cell, while 60 (15%) have a low awareness level.

Hypotheses Testing

Four null hypotheses were formulated and tested in this study. A t-test and Analysis of Variance (ANOVA) were used to test the hypotheses. The results of the analysis are presented in Tables 4 – 7.

Hypothesis 1: *There is no significant difference in the awareness level of illiterates on sickle cell on the basis of gender*

Table 4: Mean, Standard Deviation, t-value on the awareness level of illiterates on sickle cell on the basis of gender

Gender	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Male	214	67.37	6.28	418	0.62	1.96	0.076
Female	206	67.01	5.49				

Table 4 indicates that the calculated t-value is 0.62 while the critical t-value is 1.96 at 0.05 alpha level of significance. The corresponding p-value of 0.76 is greater than 0.05,

therefore the null hypothesis is accepted. As such, there is no significant difference in the awareness level of illiterates on sickle cell on the basis of gender. Thus, gender did not significantly affect the awareness level of illiterates about sickle cell.

Hypothesis 2: *There is no significant difference in the awareness level of illiterates on sickle cell on the basis of age*

Table 5: Analysis of Variance (ANOVA) showing the awareness level of illiterates on sickle cell on the basis of age

Source	Sum of Squares	Df	Mean Squares	Cal. F-ratio	Crit. F-ratio	p-value
Between Groups	130.929	2	65.46	1.88	3.00	0.082
Within Groups	14471.669	417	34.70			
Total	14602.598	419				

Table 5 indicates that the Calculated F-ratio is 1.88 while the Critical F-ratio is 3.00 with a corresponding p-value of 0.082. Since the p-value of 0.082 is greater than 0.05 alpha level of significance, the null hypothesis is accepted. Therefore, the hypothesis which stated that there is no significant difference in the awareness level of illiterates on sickle cell on the basis of age is accepted.

Hypothesis 3: *There is no significant difference in the awareness level of illiterates on sickle cell on the basis of religion*

Table 6: Analysis of Variance (ANOVA) showing the awareness level of illiterates on sickle cell on the basis of religion

Source	Sum of Squares	Df	Mean Squares	Cal. F-ratio	Crit. F-ratio	p-value
Between Groups	121.478	2	60.73	1.74	3.00	0.097
Within Groups	14481.120	417	34.72			
Total	14602.598	419				

Table 6 indicates that the Calculated F-ratio is 1.74, the Critical F-ratio is 3.00 while the p-value is 0.097. The p-value of 0.097 is greater than 0.05 alpha level of significance thus, the null hypothesis is accepted. Therefore, religion did not significantly affect the awareness level of illiterates on sickle cell.

Hypothesis 4: *There is no significant difference in the awareness level of illiterates on sickle cell on the basis of marital status*

Table 7: Mean, Standard Deviation, t-value on the awareness level of illiterates on sickle cell on the basis of marital status

Marital Status	N	Mean	SD	df	Cal. t-value	Crit. t-value	p-value
Single	172	66.13	5.63	418	3.10*	1.96	0.018
Married	248	67.93	5.98				

Table 7 indicates that the Calculated t-value is 3.10 and the Critical t-value is 1.96 at 0.05 alpha level of significance. As such the null hypothesis is rejected because the p-value of 0.018 is less than 0.05. Thus, marital status significantly influenced the awareness level of illiterates on sickle cell.

Discussion

Respondents ranked item 1 (I know that sickle cell anemia disease is a killer disease) highest. This implies that majority of the illiterates in Ilorin metropolis know that cell anemia disease can lead to death. Oyewale (2006) reported the findings of Olugbeminiyi (2000) that the child with sickle cell anaemia disease usually have recurrent episodes of acute illness referred to as crises which can lead to death. The result of this study showed that 83.8% of the respondents are aware of sickle cell disease. This study corroborated the findings of World Health Organization (2006) that awareness of sickle cell anemia disease is on the increase. Ebomoyi (2013) reported that the level of awareness on this disease is quite low and that many illiterate parents in the rural and urban communities often associate a child with sickle cell disease to be a witch. In this study, despite the high knowledge of illiterates on the existence of sickle cell anaemia, there is still a consistent rise in the population of sickle cell anemia patient (Adedoyin, 1990). This might be as a result of knowledge deficiency on the causes of sickle cell anemia particularly as it relates to genotype of the parents. Geller and Oconnor (2008) reported that acquisition of knowledge about a disease is important in behavioral adaptation. Erinosho (2005) recommended that intending coupled should know their genotype status before marriage as a preventive measure against producing offspring with sickle cell anemia disease. Joel (2005) observed that most parents still adopt traditional remedies to treat sickle cell anemia disease.

The male and female respondents did not differ in their knowledge on sickle cell anaemia disease. In a study carried out by Olubiyi, Umar, Ajiboye, Olubiyi and Abioye (2013) revealed that 97.8% of the respondents sampled had high knowledge about sickle cell disease and that they have the same perception and attitude towards the cause of the disease.

Irrespective of age, the awareness level of the respondents was the same. This could be as a result of the fact that sickle cell anaemia disease affects all age groups. This finding agreed with the studies of Joel (2005) who opined that cell sickle cell anaemia cuts across all ages. Oyewole (2006) reported that because of the high level of awareness about this disease, most of the different age groups that are affected with sickle cell anemia cope by seeking for constant medical attention.

Religious background notwithstanding most illiterates are similar in their awareness level on sickle cell anaemia disease. In line with this Oyewale (2006) affirmed that Muslims and Christians utilize same coping strategies to lessen the discomfort during crisis.

The findings of this study revealed that the experiences of the single and married definitely differed. This might be as a result of experiences the married couple had gone through. Afolayan and Jolayemi (2001) opined that most couples got married without actually knowing their genotype status. Some couples contracted marriages without pre-marital genotype screening test resulting to the production of sicklers. This experience may have modified their perspectives over time. In the study carried out by Joel (2011) on parental attitude towards children with sickle cell diseases, it was confirmed that 87% of the respondents regretted having such children, while most singles are not considering genetic counselling before putting in for marriage (Gbenga, 2011).

Conclusions

1. No significant difference was found in the awareness level of the illiterates on sickle cell anaemia on the basis of gender
2. No significant difference was found in the awareness level of the illiterates on sickle cell anaemia on the basis of age
3. No significant difference was found in the awareness level of the illiterates on sickle cell anaemia on the basis of religion
4. A significant difference was found in the awareness level of the illiterates on sickle cell anaemia on the basis of marital status.

Implication of the Findings to Counselling

Despite the high level of awareness, sickle cell anaemia disease has continued to increase in families as such; this calls for the attention of practicing counsellors. Also, genetic counselling should be encouraged by the government. Professional counselors should intensify efforts in organizing massive counselling programmes especially for those who are of marriageable age. There is need to organize counselling session for uneducated parents and children with sickle cell diseases as this will help to reduce the burden of the disease on families and individuals.

Recommendations

Despite the knowledge level of the respondents, there is need for government and nongovernmental organization not to relent in their efforts on mounting rigorous campaign on genotype screening before marriage. This will help to eradicate sickle cell anaemia disease in our society. Government should mount advocacy programmes to educate illiterates on the causes, prevention and treatment (epidemiology) of sickle cell anaemia.

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