COUNSELLING NEEDS OF ADOLESCENTS WITH SICKLE CELL ANAEMIA IN PORT HARCOURT METROPOLIS, RIVERS STATE, NIGERIA

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ABSTRACT

The study investigated counselling needs of adolescents with sickle cell anemia in Port Harcourt Metropolis, Rivers State, Nigeria. The study adopted descriptive survey research. One research question and three null hypotheses are stated to guide the study. The population consisted of 26 adolescents with sickle cell anemia in the area. The sample of the study comprised 26 adolescents with sickle cell anemia drawn through census sampling technique. The instrument for data collection was designed by the researcher and titled "Counselling Needs Questionnaire (CNQ)". The instrument was validated by three experts in Counselling. The reliability of the instrument was determined through Cronbach alpha and the instrument yielded a reliability coefficient of 0.68. Mean and standard deviation was used in answering the research question while three null hypotheses were tested using independent t-test at 0.05 level of significance. The study observed that there are various counselling needs for adolescents with sickle cell anemia. However, there was no significant difference between the counselling needs of male and female adolescents with sickle cell anemia. In addition, there was no significant difference between the counselling needs of adolescents with sickle cell anemia from educated and uneducated families and high and low socio-economic background. Based on the findings of the study, recommendations were stated.

Keywords: Sickel Cell Anaemia, Counselling needs, Adolescents, Nigeria.

INTRODUCTION

Sickle cell is a disease of the blood. It is an inherited chronic anemia that is caused by a decrease in the normal amount of oxygen that is carried by blood due to abnormal hemoglobin. Hassell (2010) explained that sickle cells in blood vessels can result into vaso-occlusion, it is very painful and damaging to the tissues and organs of the body. Also, sickle cell disease (SCD) is an inherited disorder in which the shape of red block cells are C-shaped sickles and can get stuck in blood vessels, thereby blocking the blood vessels. This blockage is known as a pain crisis or sickle crisis.

Midenceand Elander (1994) explain that part of the blood are the red cells because the blood contains plasma, which is the fluid with tiny particles that are invisible to the naked eyes, but are actually living cells. Agomoh and Kanu (2015) explained that there are millions of red blood cells, white blood cells and the platelets in the human blood. The red blood cell contains a chemical substance known as the hemoglobin. This hemoglobin carries oxygen from the lungs to the other parts of the body. During blood circulation, oxygen is transported to different parts of the body to function effectively. However, in adults and children with sickle cell anemia, their red blood cells are sickle meaning the shape of their red blood cell is distorted

and not flexible. Then, the sickle red corpuscles become wedged in the capillaries, blocking the blood flow, the sickle cell hemoglobin molecules now occur. This will form the pseudo crystalline structures that are identified in factoids. Thus, this process is referred to as sickling.

Alawale (1998) observed that sickle cell disease is traced to a single recessive gene. For a child to have sickle cell gene, it must have been transferred from both parents to that child. Sickle cell disease (SCD) results from any combination of the sickle cell gene with any other abnormal β-globin gene. For instance, if a child has a normal gene and one sickle cell gene in his/her genetic makeup, that child is absolutely healthy, nonetheless, if the child carries the sickle cell trait, it is possible that this disease can be passed onto his/her offspring.

Obi (2018) observed that sickle cell aneamia is caused by mutation in the gene that allows the body to make red blood cell (iron-rich compound that gives blood its red colour called hemoglobin). In sickle cell anaemia patient, the abnormal hemoglobin causes red blood cells to become rigid, sticking and deformed. The sickle cell gene is transferred from generation to generation in a pattern of inheritance that is called autosomal recessive inheritance.

This means that both the mother and the father must transfer on the defective form of the gene for a child to be affected. There are series of health challenges associated with sickle cell anaemia. Umeji (2017) opined that nature of the blood cell in patients with sickle cell cannot easily move through the blood vessels because the cells tend to cluster together. The cluster causes a blockage in the small arteries or capillaries and stops the movement/transport of healthy, normal oxygen-carrying blood. This blockage is what causes the painful and damaging complications of sickle cell disease.

Alawale (1998) explained that normal hemoglobin can live up to 120 days, while sickle cells only live for about 10 to 20 days. In addition, sickle cells can be destroyed by the spleen due to their stiffness and shape. There are different types of sickle anaemia. Sheyin (2012) identified the types of sickle cell anaemia as follows: (HBSS), the sickle beta-thalassemias (HBSβO) – (HBSβ+), hemoglobin SC disease and sickle cell disease with hereditary persistence of fetal hemoglobin (S/HPFH). The most common forms of sickle cell disease is the Hb SS. It is discovered that patients with Hb SS and Hb SβO, suffer various kinds of sickle cell diseases, since their hemoglobin level is very low and also have more frequent vaso-occlusive (the flow of blood is blocked because the sickle cells have become stuck in the blood vessels) and hemolytic complications or difficulties. The second most common sickle cell disease is (Hb SC) disease. People with this kind of disease have more benign clinical source than people with Hb SS or sickle βO- thalassemia. Equβally, people with sickle β+ thalassemia and S/HPEH also have a more benign clinical course and people with S/HPFH may really have hemoglobin levels that are (or) approach normal level. There are several symptoms of sickle cell anaemia. Some of these symptoms include:

Lavin (2008) enthused that anaemia is the most common symptom of all the sickle cell diseases. In sickle cell disease, red blood cells are produced but then become deformed into the sickle shape. The body subsequently becomes dehydrated or with a fever. This sickle shape makes the cells stiff and sticky causing them to become stuck in the vessels, destroyed by the spleen or simply die because of their abnormal function. The decrease in the red blood cells causes anaemia. Severe anaemia can make adolescent pale and tired. Healing and normal growth and development may be delayed because of chronic anaemia.

Hassell (2010) identified constant pain, called crises as the main symptom of sickle cell anaemia. Pain develops when sickle shaped red cells block blood flow through tiny blood vessels to the chest, abdomen and joints. Pain can also occur in the bones. These are also called vaso-occlusive crisis. The pain can occur anywhere, but most often occurs in the chest, arms and legs. Painful swelling of the fingers and toes called dactylitics can occur in infants and children younger than three years. Priapism is a painful sickling that occurs in the penis and if it is not promptly treated, can result in impotence. The pain experienced by sicklers varies in intensity and can last for a few hours to a few weeks. Some people have a dozen or more crises every year. Some adolescents and adults with sickle cell anaemia also have chronic pain, which can result to bone, joint damage, ulcers and other health challenges.

Another symptom of sickle cell anaemia is acute chest syndrome Umeyi (2017) explained that this occurs when sickling is in the chest. This can be a life threatening complication of sickle cell disease. It often occurs unexpectedly, when the body is under stress due to infection, fever or dehydration. The sickled cell sticks together and blocks the movement of oxygen in the tiny vessels in the lungs. Infact multiple experiences of acute chest syndrome can cause permanent lung damage. In addition, sickle cell can damage an organ that fights infection ie. (spleen), leaving the patient more vulnerable to infections. Although medical doctors may prescribe antibiotics to children and adolescents who are sicklers in order to prevent potentially life threatening infections.

Jumbo (2019) observed that delayed growth constitutes a symptom of sickle cell anaemia. Red blood cells provide the body with oxygen and nutrients needed for growth. A shortage of healthy red blood cells can slow growth in infants and children and delay puberty in teenagers.

Scholars observed that (Dennis & Jones, 2016) sickle cell patients are susceptible to visual problems. The tiny blood vessels that are connected to the eyes may become plugged with sickle cells. This can damage the retina, the portion of the eye that processes visual images, thus leading to visual problems.

Splenic sequestration or pooling is also a symptom of sickle cell anaemia (Hassell, 2010). Crises are as a result of sickle cells pooling in the spleen. This can cause a sudden drop in hemoglobin and can be life threatening if not treated promptly. The spleen can also become enlarged and painful from the increase in blood volume. After repeated episodes of splenic sequestration, the spleen becomes scarred and permanently damaged. Most sicklers do not have a functioning spleen either from surgical removal or from repeated episodes of splenic sequestration, stroke is also another symptom of sickle cell anaenia (Jumbo, 2019). It is a sudden and severe complication of persons with sickle cell disease. The misshapen cells can block the major blood vessels that supply the brain cells with oxygen. Any interruption in the flow of blood and oxygen to the brain can result in devastating neurological impairment. Having had one stroke from sickle cell anaemia, a patient is more likely to have a second and third stroke.

Lavin (2008) identified jaundice or yellowing of the skin, eyes and oral mucosa as the most common symptom of sickle cell disease. Sickle cells do not live as long as normal red blood cells. Therefore, they die more rapidly than the liver can filter them out. Bilirubin (which causes the yellow) from the broken down cells builds up in the system causing jaundice.

Adolescents with sickle cell anaemia may have several counselling needs. The counselling needs of adolescents with sickle cell anaemia may include: counselling on self-concept,

medical care, communication, awareness of the symptoms of sickle cell anaemia, knowledge of the medical services available for the disease etc.

Udoh (2017) identified the counselling needs of people with sickle cell anemia. He listed some of them as new for effective communication, self understanding and medical care. Nwanju (2018) identified such needs as need for positive self concept and self acceptance as well as need for special attention by teachers. Udoh (2017) observed that there is no significant difference between the counselling needs of adolescents with sickle cell anaemia based on gender. Hassell (2010) however, observed differences between the counselling needs of adolescents with sickle cell anaemia based on parental education and parental socio-economic background. On the other hand, Nwanju (2018) observed that there is no significant difference between adolescents with sickle cell anaemia from broken and intact families.

Statement of Problem

Sickle cell anaemia may be responsible for repeated absence from school, truancy among students and attribution in the school system. It may also be responsible for poor academic performance. This is because sickle cell disease affects adolescents' in their participation in educational activities, extramural and in everyday activities. It may result to poor self concept, depression and anxiety. It may also affect the extent of interaction and communication with others. It is as a result of the foregoing that the study investigated the counselling needs of adolescents in Port Harcourt Metropolis, Rivers State.

Purpose of the Study

The purpose of the study is to investigate the counselling needs of adolescents with sickle cell anaemia in Port Harcourt Metropolis. Specifically, the study intends to do the following:

1. Identify the counselling needs of adolescents with sickle cell anaemia.
2. Determine whether differences exist between the counselling needs of male and female adolescents with sickle cell anaemia in Port Harcourt Metropolis.
3. Determine whether differences exist between the counselling needs of adolescents with sickle cell anaemia from educated and uneducated families.
4. Examine whether differences exist between the counselling needs of adolescents with sickle cell anaemia from high and low socio-economic background.

Research Question

The following research question guided the conduct of the study?

1. What are the counselling needs of adolescents with sickle cell anaemia in Port Harcourt Metropolis?

Hypotheses

The following null hypotheses testable at 0.05 level of significance are tested in the study.

1. There is no significant difference between the counselling needs of male and female adolescents with sickle cell anaemia.
2. There is no significant difference between the counselling needs of adolescents with sickle cell anaemia from educated and uneducated families.
3. There is no significant difference between the counselling needs of adolescents with sickle cell anaemia from high and low socio-economic background.

Methods

This study adopted non experimental research design of the descriptive survey method. This descriptive survey method requires the investigation of information or data as it currently exist.

This method of research is appropriate for the study as it will investigate the counselling needs of adolescents with sickle cell as it currently exists in the area.

The population of the study comprised 26 adolescents with sickle cell anaemia in the area. The sampling technique adopted in the study comprised snow ball and census sampling techniques. The snow ball sampling technique was used to sample adolescents with sickle cell anaemia in the area. Also census sampling technique was utilized due to the small size of the sample (26).

The instrument for data collection was a questionnaire designed by the researcher and titled "Counselling Needs Questionnaire (CNQ)". The instrument was segmented into two sections A and B. Section A presented information on the bio-data of the respondents. Section B presented information on the counselling needs of the adolescents with sickle cell anaemia. The responses for the section B and the weights are as follows: Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1.

The instrument was validated by three experts in guidance and counselling. The suggestion of the experts was taken into consideration in drafting the final version of the instrument. The reliability of the instrument was determined through Cronbach Alpha technique. The instrument was administered to ten adolescents with sickle cell anaemia in Bayelsa State. The instrument yielded 0.68 indicating that the instrument was quite reliable for the study. Mean and standard deviation was used in answering the research question while independent t-test was used in testing hypotheses at 0.05 level of significance.

Results

Research Question

What are the counselling needs of adolescents with sickle cell anaemia in Port Harcourt Metropolis, Rivers State?

The responses of the adolescents with sickle cell anaemia on the counselling needs was subjected to mean and standard deviation analysis.

Table 1: Mean and standard deviation of counselling needs of adolescent with sickle cell anaemia

S/N	Item	Responses N = 26		
		$\bar{X}$	S	Remark
1	Sickle cell anaemia patients who are adolescents have need for effective interaction with others	2.98	0.94	Agree
2	Sickle cell anaemia patients who are adolescents have need for positive self concept	3.19	1.08	Agree
3	Adolescents with sickle cell anaemia have need for improved academic performance	3.12	1.05	Agree
4	They have need for self understanding	2.96	0.92	Agree
5	They have need for understanding the symptoms of sickle cell	3.08	1.03	Agree
6	They have need for effective management of the disease	3.22	1.09	Agree
7	They have need for improved academic attendance	3.21	1.08	Agree
8	They have need to self respect and dignity	3.18	1.06	Agree
9	They have the need for conducive environment	3.16	1.03	Agree
10	They have the need for self expression	2.74	0.71	Agree
11	They have need for special needs education	3.18	1.07	Agree
12	They have needs to good facilities in schools	2.89	0.85	Agree
13	They have need for vocational information	2.94	0.91	Agree
	Grand Total	**3.07**	**0.99**	**Agree**

Data in Table 1shows that all the items are considered as counselling needs of adolescents with sickle cell anaemia in the area. Data in Table 1 indicated that effective management of the disease ($\bar{X}$ = 3.22) is the commonest counselling needs of the adolescents with sickle cell anaemia. However, the least counselling needs of the adolescents with counselling needs is the need for self expression ($\bar{X}$ = 2.74). The grand mean score ($\bar{X}$ = 3.07) also showed that the items in Table 1 constituted the counselling needs of adolescents with sickle cell anaemia in the area.

Hypothesis One
There is no significant difference between the counselling needs of male and female adolescents with sickle cell anaemia.

The responses of the male and female adolescents with sickle cell anaemia on their counselling needs was subjected to independent t-test.

Table 2: t-test analysis of the mean difference between the responses of adolescents with sickle cell anaemia based on gender

Gender	N	$\bar{X}$	S	Df	Cal.t-value	Crit-t value	Remarks
Male	10	2.98	0.94				
Female	16	3.03	0.98	24	-0.167	3.422	H_0 Accepted

Data in Table 2 reveals that the calculated t-value (0.167) is less than the critical t-value (3.422) at 0.05 level of significance. The null hypothesis is accepted while the alternate hypothesis is rejected. The result of this null hypothesis is that the counselling needs of adolescents with sickle cell anaemiais not based on gender in the area.

Hypothesis Two
There is no significant difference between the counselling needs of adolescents with sickle cell anaemia from educated and uneducated families.

The responses of the adolescents with sickle cell anaemia from educated and uneducated families on their counselling needs was subjected to independent t-test.

Table 3: t-test analysis of the mean difference between the responses of adolescents with sickle cell anaemia based on parental education

Parental Education	N	$\bar{X}$	S	Df	Cal.t-value	Crit-t value	Remarks
Educated	12	2.71	0.67				
Uneducated	14	3.18	1.04	24	-1.391	3.422	H_0 Accepted

Data in Table 3 indicates that the calculated t-value (-1.391) is less than the critical t-value (3.422) at 0.05 level of significance. The null hypothesis is accepted while the alternate hypothesis is rejected. The result of this null hypothesis is that the counselling needs of adolescents with sickle cell anaemia is not based on parental education in the area.

Hypothesis Three
There is no significant difference between the counselling needs of adolescents with sickle cell anaemia from high and low socio-economic background.

The responses of the adolescents with sickle cell anaemia from high and low socio-economic background on their counselling needs was subjected to independent t-test.

Table 4: t-test analysis of the mean difference between the responses of adolescents with sickle cell anaemia based on parental socio-economic background

Parental SEB	N	$\bar{X}$	S	Df	Cal.t-value	Crit-t value	Remarks
High	11	2.79	0.69				
Low	15	3.14	1.02	24	-1.045	3.422	H_0 Accepted

Data in Table 4 shows that the calculated t-value (-1.045) is less than the critical t-value (3.422) at 0.05 level of significance. The null hypothesis is accepted while the alternate hypothesis is rejected. The result of the null hypothesis is that the counselling needs of adolescents with sickle cell anaemiais not based on parental socio-economic background.

DISCUSSION OF FINDINGS

The finding of the study showed that there are several counselling needs of adolescents with sickle cell anaemia in Port Harcourt Metropolis, Rivers State, Nigeria. These counselling needs include needs for effective interaction with others, need for positive self concept, need for improved academic performance, need for self understanding, need for understanding the symptoms of sickle cell. Other needs are: need for effective management of the disease, need for improved academic attendance, need for self respect and dignity, need for conducive environment. In addition, other counselling needs are: need for special needs education including individualized education, need for good facilities and need for vocational information. This result is in agreement with Udoh (2017) and Nwanju (2018) that there are numerous counselling needs of adolescents with sickle cell aneamia in the area.

The findings of the study also revealed that the differences between the counselling needs of adolescents with sickle cell anaemiais not based on gender, parental education and parental socio-economic background. These findings showed that both male and female adolescents with sickle cell anaemia are exposed to the same counselling needs. This finding is in agreement with Udoh (2017) that there is no significant difference between the counselling needs of adolescents with sickle cell anaemia based on gender. Also, there was no significant difference between adolescents from educated and uneducated families and parental socio-economic background with sickle cell anaemia in the area. This finding is in disagreement with Hassell (2010) that there was no significant difference between the counselling needs of adolescents with sickle cell anaemia based on parental education and parental socio-economic background in the area.

CONCLUSION

Based on the findings of the study, the researcher concluded that: (i) there are several counselling needs of adolescents with sickle cell anaemia in the area (ii) there is no significant difference in the mean responses of adolescents with sickle cell anaemia based on gender, parental education and parental socio-economic background in the area.

RECOMMENDATIONS

Some of the recommendations of the study are as follows:

1. There should be more awareness on sickle cell anaemia among adolescents.
2. Adolescents with sickle cell anaemia should be encouraged to go for counselling to improve their self concept.
3. Individualized instruction should be provided for adolescents with sickle cell anaemia.
4. Adolescents with sickle cell anaemia should be given adequate medical care.

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