FACTORS MILITATING AGAINST ACCEPTABILITY OF PRENATAL DIAGNOSIS OF SICKLE CELL ANAEMIA AMONG HEALTH WORKERS IN SELECTED HOSPITALS IN ANAMBRA STATE

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Abstract
The genetic control of sickle cell anaemia through prenatal diagnosis has been practiced in many developed nations of the world for many years. This seems not to be common in Nigeria. This stuffy therefore, tried to find out the factors militating against the acceptability of prenatal diagnosis of sickle cell anaemia among health workers in selected hospitals in Anambra State. To achieve this, three research questions were formulated. The population of the study was made up of all health workers from the selected hospitals in Anambra State. Stratified random sampling technique was used to draw out 450 health workers from the population. This made up the sample size. Questionnaire was used as the instrument for data collection Descriptive statistics of mean (X) with a criterion mean of 2.50 was used to analyze the data obtained. The findings of the study showed that Knowledge and Religion are factors militating against prenatal diagnosis of sickle cell anaemia while attitude of health workers is not a factor militating against prenatal diagnosis of sickle cell anaemia among health workers in Anambra State.

Introduction
Many couples view the birth and raising of children as the ultimate goal of family life, that is, the climax of successful marriage (Drescher, 1999). However, this happiness may be short-lived by recruiting indisposition or death of these much cherished offsprings particularly between infancy and adulthood. For many adults, a central concern in life is the health and welfare of their children. A new baby ushers in decades of dedicated work and anxiety to foster the child's life, to limit the inevitable pain, and to provide every advantage parents can reasonably afford.

Until recently, pregnancy was a black box, largely beyond parental influence other than through prayers and wholesome living. However, an array of technologies can now provide a detailed examination of the embryo and foetus, genetically, bio-chemically, and anatomically. Though one may not be able to change the embryo or the foetus, but can effectively choose to accept or reject what he finds. The ability to select our children based on detailed biologic characteristics is new (Botkin, 2004). Efforts to provide the child with every advantage may begin with choosing the desired child at the very beginning.

Sickle cell anaemia is the most common genetic (inherited) disease which affects the ability to carry oxygen around the body using the red blood cells. Normally, red blood cells carry oxygen from the lungs to the rest of the body and they are round and flexible, allowing them to easily move around the body. (Wellshpere, 2008). According to Streetly (2004), when the cells are deoxygenated and under stress in sickle cell conditions, they can change from round, flexible disc-like cells to elongated sickle or crescent moon shape. The effect of this change is that the cells do not pass freely through small capillaries and so form clusters, which block the blood vessels thereby, preventing oxygenating of the tissues in the affected areas resulting in tissue hypoxia and consequent pain. Other symptoms of this disorder include severe anaemia, susceptibility to infection and damage to major organs.

Ayatollali & Haghshenas, (2004) opined that sickle cell anaemia is a major health problem in many countries with a wide spectrum of clinical severity. This can cause numerous disorders that vary with respect to degree of anaemia, frequency of crisis, extent of organ injury, and duration of survival. This disease affect over 2 million people in Nigeria with a generally severe clinical course. Frequencies of the carrier state determines the prevalence of sickle cell anemia at birth. For instance, in Nigeria, by far the most populous country in the sub-region, 24% of the populations are carriers of the mutant gene and the prevalence of sickle cell anaemia is about 20 per 1000 births. This means that
in Nigeria alone, about 150,000 children are born annually with sickle cell anaemia (World Health Organization, 2006).

In the United States, 1 in 14 children with sickle cell anaemia (7%) die in the first years of life. After that, the risk is much lower. At present, 6 out of 7 people with sickle cell anaemia live past the age of 20, and 1 in 2 live past age of 45-50. In African, risk are higher because infections are most common, the climate is more extreme, are it is less easy to get rapid access to emergency medical care (Durosimi Odebiyi Adediran Akinola and Adegoriye, 1995). It is important note that sickle cell anaemia can be prevented through genetic counseling and bone marrow transplantation. According to' Weelshpere (2008) bone marrow transplantation procedure has many potentially serious side effects and is not recommended for all cases. However in Nigeria, effective population - based genetic transplantation therapy must be used with caution since it is safe only for younger patients with little or no complications (Durosimi, Odebiyi, Adediran, Akinola and Adegoriye, 1995).

A more pragmatic measure is the prenatal diagnosis which is testing for diseases or conditions in a foetus or embryo before it is born and selective termination of affected pregnancy if the couple so desires. The genetic control of sickle cell anaemia through prenatal diagnosis has been practiced in many developed nations of the world for many years (Loader, Sutera, Walden, Kozra and1 Rowley, 1991). The acceptability of prenatal diagnosis of sickle cell anaemia in Nigeria where-it was recently introduced will depend on some factors such as religious, political and social attitudes of the populace.

Kagu, Abjah and Ahmed (2004) in their study asserted that earlier studies from Jamaica and Nigeria confirmed the fact that religion was he main militating factors against termination of pregnancy by abortion if prenatal diagnosis confirmed Sickle Cell Anaemia. They also affirmed that the well supposedly well-informed health professionals and medical students are not really well informed about Prenatal Diagnosis of Sickle Cell Anaemia. Wonkam, Njamnishi and Angwafo (2006) also stated that there is poor knowledge of genetic tests among medical students and physicians. Also, Thomas, Oni, Smith, Leavy and Barnasse (2005) documented that to ensure sickle cell anaemia, health workers must be knowledgeable and be familiar with the participatory processes involved. Loader, et al (1991) also confirmed that in some countries, attitude towards termination of pregnancy by abortion has excluded provision of Prenatal Diagnosis within their health system.

Haemoglobinopathies constitute the most frequent monogenic disorders worldwide (Theodoridou, Alernayehou, Karakasidou, Ale.tra et al, 2008). Sickle cell heterozygote survive and procreate without hindrance but at age of reproduction, but with improving medical facilities, many more are surviving into adulthood and the fertile ones among them who get pregnant constitute a very high risk group during pregnancy, and in the puerperium (Rappaiprot, Velazquiz and Williams, 2004).

In Nigeria, the prevalence of haemoglobin sickle cell is 1-3% within annual incidence of about 80,000. This poses a severe burden on the affected individual, family and the nation at large (Adeymi and Adejunle, 2007). It is also pertinent to note that Nigeria has the highest prevalence of sickle cell anaemia in the world (Durosimi et al 1995). Since prenatal diagnosis is an invasive procedure, the aim of this study is to determine the factors militating against acceptability of prenatal diagnosis of sickle cell anaemia among health workers in selected hospitals in Anambra State.

**Research Question:**

The study will seek answers to the following questions:

1. Will knowledge be a factor militating against acceptability of prenatal diagnosis of sickle cell anaemia among Health workers in Anambra State?
2. Will Religion be a factor militating against acceptability of prenatal diagnosis of sickle cell anaemia among health workers in Anambra Stale?
3. Will the attitude of health workers be a factor militating against the acceptability of prenatal diagnosis of sickle cell anemia among health workers in Anambra State?
Methodology

The population for the study was made of all the health workers from the selected hospitals in Anambra State. The selected hospitals include Nnamdi Azikiwe University Teaching hospital Nnewi, General hospital Onitsha and General hospital Awka. Stratified random sampling technique was used to draw respondents from the different groups of health workers (Doctors, Nurses, Lab Scientists, Pharmacists Physiotherapists) in the selected hospitals. Each group of health workers made up a stratum, since the population consisted of different health workers which have distinct features of sex and some peculiarities. The simple random sampling technique was used to draw 90 doctors, 270 nurses, 45 lab scientist, 30 pharmacists and 15 physiotherapists from the selected hospitals. The sample is therefore made up of 450 health workers. A structured questionnaire of modified liken scale type with 0.76 reliability was used for the study. Descriptive statistics of mean (X) was used to analyze the data obtained. A criterion mean of 2.50 was established for the study. Any score below 2.50 indicates a negative response while a score above 2.50 indicates a positive response to the questions.

Results and Discussion

Research Question 1: Will knowledge be a militating factor against the acceptability of prenatal diagnosis of sickle cell anaemia among health workers in Anambra State?

Table 1: Response on Knowledge as Factor against Prenatal Diagnosis of Sickle Cell Anaemia

<table>
<thead>
<tr>
<th>Response</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>150</td>
<td>50</td>
<td>135</td>
<td>115</td>
<td>450</td>
<td>2.52</td>
</tr>
<tr>
<td>Percentage</td>
<td>33.3%</td>
<td>11.1%</td>
<td>30%</td>
<td>25.6%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Data in table 1 shows that the mean score for the responses was 2.52 which is more than the criterion means of 2.50. The data revealed a positive response to the question that sought to fine out if knowledge of health workers is a factor against prenatal diagnosis of sickle cell anaemia. In other words, knowledge is a factor militating against the acceptability of prenatal diagnosis of sickle cell anaemia among health worker in Anambra State. This corroborates with the finding of Kagu, Abjah and Ahmed (2004) in their study that though the health professionals knew their haemoglobin genotype, have heard about Prenatal Diagnosis of Sickle Cell Anaemia but do not know where the facilities of Prenatal Diagnosis are obtainable in Nigeria. This means that they are not really informed about Prenatal Diagnosis of Sickle Cell Anaemia. Also Wonkam, Njamnishi and Angwafo (2006) were of the opinion that there is poor knowledge of genetic tests among medical students and physicians.

Research Question 2: Will religion be a militating factor the acceptability of prenatal diagnosis of sickle cell anaemia among health workers in Anambra State?
Table 2: Response on Religion as a Factor Against Prenatal Diagnosis of Sickle Cell Anaemia

<table>
<thead>
<tr>
<th>Response</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
<td></td>
<td>(X)</td>
</tr>
<tr>
<td>Frequency</td>
<td>111</td>
<td>70</td>
<td>196</td>
<td>73</td>
<td>450</td>
<td>2.50</td>
</tr>
<tr>
<td>Percentage</td>
<td>24.7%</td>
<td>15.6%</td>
<td>43.5%</td>
<td>16.2%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Data in table 2 show that the mean score for the responses was 2.50 which is equal to the criterion mean of 2.50. The data revealed a positive response to the question that sought to find out if religion is a factor against the acceptability of Prenatal Diagnosis of sickle cell Anaemia. In other words, religion is a factor militating against the acceptability of Prenatal Diagnosis of Sickle cell Anaemia among health worker in Anambra State. This is in line with the findings of Kagu, Abjah and Ahmed (2004) that religion is a major factor militating against the acceptability of prenatal Diagnosis of cell Anaemia in North Eastern Nigeria. Also that 53% of their respondents would not like to terminate pregnancy by abortion if Prenatal Diagnosis confirmed sickle cell Anaemia. Also Loader, et al (1991) and Jones, Schickle, Goldstein and Sergeant, (1988) found out that earlier studies from Jamaica and Nigeria confirmed the fact that religion was the main militating factor against termination of pregnancy abortion of Prenatal Diagnosis confirmed Sickle cell Anaemia.

Research Question 3: Will attitude of health workers militate against the acceptability of prenatal diagnosis of sickle cell anaemia in Anambra State?

Table 3: Response on Attitude of Health Workers as a Factor against Prenatal Diagnosis of Sickle Cell Anaemia.

<table>
<thead>
<tr>
<th>Response</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
<td></td>
<td>(X)</td>
</tr>
<tr>
<td>Frequency</td>
<td>99</td>
<td>62</td>
<td>221</td>
<td>68</td>
<td>450</td>
<td>2.43</td>
</tr>
<tr>
<td>Percentage</td>
<td>22%</td>
<td>13.8%</td>
<td>49.1%</td>
<td>15.1%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Data in table 3 shows that the mean score for the response was 2.43 which is less than criterion mean of 2.50. The data revealed that a strong negative response to the question that sought to find out if the attitude of health worker is a factor militating against the acceptability of Prenatal Diagnosis of Sickle Cell Anaemia. In other words, the attitude of health workers is not a factor militating against the acceptability of Prenatal Diagnosis of sickle cell Anaemia in Anambra State. This is contrary to the findings of Loader, Sutera, Walden, Kozra and Rowley (1991) who founded out that in some countries, attitude of health workers is a factor that militated against termination of pregnancy by abortion and had excluded provision of Prenatal Diagnosis within their health system.

Conclusion

Despite the knowledge of the complications sickle cell anaemia in pregnancy by the health workers, the awareness of where facilities for Prenatal Diagnosis are obtainable in Nigeria among health workers and students is lacking. Majority of the health workers are not well informed about Prenatal Diagnosis of Sickle Cell Anaemia. Religion is a major factor militating against the acceptability of Prenatal Diagnosis of Sickle Cell Anaemia. The attitude of health workers is not factor militating against the termination of affected pregnancy detected by prenatal diagnosis.
**Recommendation**

Based on finding, following recommendations were made,

i. Health Professionals should be well equipped inorder to give proper and adequate counseling to our populace,

ii. Religious leaders also need to be educated, inorder that they can educate their followers better, and dispel myths, misunderstandings about Prenatal Diagnosis of Sickle Cell Anaemia and Preventive termination of pregnancy.

iii Emphasis should as well be on genetic counseling as a means of controlling sickle cell anaemia.

**Reference**


Wellsfspere 2008. Sickle cell anaemia *Bewellspere* 2 Stanford USA.