

Knowledge And Attitude Of Female Health Workers Towards Prenatal Diagnosis Of Sickle Cell Disease.

A. S. Adeyemi, FWACS; D. A. Adekanle FWACS

Department of Obstetrics and Gynaecology, College of Health Sciences, Ladoke Akintola University of Technology, Nigeria

Abstract:

Background: Sickle cell disease individuals who get pregnant constitute a high risk group during pregnancy and in the puerperium. Females experience various complications of sickle cell disease in pregnancy, hence female health workers who are thought to be aware of these complications, and who would be involved in information dissemination about prenatal diagnosis were studied to know how their knowledge would affect their attitude to early termination of affected pregnancy detected by prenatal diagnosis.

Methodology: Structured questionnaires were administered to all categories of female health workers at the Ladoke Akintola University of Technology Teaching Hospital, Osogbo, Osun State, Nigeria

Result: One hundred and seventy-six responses were obtained. Fifty-seven (32.4%) were single, while 119 (67.6%) were married. One hundred and fifty-three (86.9%) were Christians, while 23 (13.1%) were Moslems. Ninety-seven (55.1%) of the respondents were nurses, 14 (8.0%) doctors, and other health workers were 65 (36.9%). The mean score of the knowledge of the complications of sickle cell disease in pregnancy for the unmarried respondents was 4.60 ± 1.6 , and for the married 4.03 ± 2.0 . The mean score for the doctors was 5.29 ± 0.73 , for the nurses 4.42 ± 1.63 , and for the other health workers 3.66 ± 2.18 . Three (21.4%) of the doctors would accept early termination of affected pregnancy, while 31 (32.0%) and 21 (32.3%) of the nurses and the other health workers, respectively, would accept termination of affected pregnancy.

Conclusion: Despite the knowledge of the complications of sickle cell disease in pregnancy by the health workers, they are opposed to the early termination of affected pregnancy detected by prenatal diagnosis; therefore, emphasis should be on genetic counseling as a means of controlling sickle cell disease.

INTRODUCTION

Sickle cell disease (SCD) embraces a variety of combinations in which the sickling gene is present with another abnormal gene affecting haemoglobin production or structure. In Africa 3 forms are common, which include

sickle cell anaemia (HbSS), sickle cell haemoglobin C (HbSC), and sickle cell thalassaemia (HbSthal)¹. In general, about 25% of people of African stock carry the sickle cell gene, but only about 2-3% suffers from SCD. In Nigeria, the prevalence of HbSS (which is the commonest SCD) is 1-3% and poses a severe burden on the affected individuals and their families.^{1,2} Sickle cell heterozygote survive and procreate without hindrance but at least in Africa the homozygote usually die young before reaching the 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^{1,3,4}. SCD is associated with an increased risk of medical complications during pregnancy. The maternal risks include prepartum and postpartum painful crises, urinary tract infections, pulmonary complications, anaemia, preeclampsia, retained placenta, malaria infection, Caesarean section, and death. Foetal complications include spontaneous abortions, premature delivery with its associated risks, intrauterine growth restriction, low birth weight, foetal distress in labour, and a high rate of perinatal mortality^{4,8}

Although the genetic control of HbSS through prenatal diagnosis (PND) has been practiced in many developed countries of the world for many years, it is a recent phenomenon in Nigeria^{9,10,11}. Some of the methods used for prenatal diagnosis include chorionic villus sampling, amniocentesis, and ultrasonography. Chorionic villus sampling is the one currently being used for prenatal diagnosis of sickle cell disease in Nigeria¹²

Many studies had looked into the knowledge and attitude of both the general population and health professional to PND.^{12,13} The aim of the present study is to assess the effect, if any, of the knowledge of pregnancy complications of SCD will have on the attitude of health workers towards early termination of affected pregnancy.

MATERIALS AND METHODS

Structured questionnaires were administered to female health professionals at Ladoke Akintola University of Technology Teaching Hospital; this included all categories of health workers in the hospital. Questionnaires were administered by the doctors involved in the study on one to one basis over a period of four weeks. Since female doctors were few, all the available ones had the questionnaires filled. Same method of selection with other cadres with exception of nurses who were randomly selected by departments. The aim of the study was explained to all the participants and questionnaires were filled and returned promptly. Data entry was done using SPSS version 10, and errors were checked and corrected before statistical analysis. The knowledge of the complications of SCD in pregnancy was scored. There were six options, for correct identification, score was one, and incorrect was zero. Maximum score obtainable was six. The mean value was calculated for the different groups and compared using unpaired Student t-test and analysis of variance; p value of less than 0.05 was taken as significant.

RESULTS

There were one hundred and seventy-six respondents, of which 32.4 % (57) were single while 67.6 % (119) were married; the mean age of the respondents was 31.31 (SD±5.24). One hundred and fifty-three (86.9%) were Christians, while 23(13.1%) were Moslems. Ninety-seven (55.1%) of the respondents were nurses, 14 (8.0%) doctors, and other health workers (which was made up of laboratory scientists, medical record officers, hospital maids/orderlies, medical social workers, laboratory assistants, and administrative staff) constitute 36.9% (65).

Table I: Social Demographic Factors.

Variables	No (%)
Marital Status :	
Married	119 (67.6)
Single	57 (32.4)
Religion:	
Christianity	153 (86.9)
Islam	23 (13.1)
Profession:	
Doctors	14 (8.0)
Nurses	97 (55.1)
Lab Scientists	14 (8.0)
Medical Records	14 (8.0)
Hosp Maids/ Orderlies	8 (4.5)
Administrative Staff	8 (4.5)

The mean score of the knowledge of the complications of the SCD in pregnancy for the unmarried respondents was 4.60 (SD± 1.6), and for the married 4.03 (SD ±2.0) which was not statistically significant ($t=1.92$, $P=0.06$). Mean scores for Christians, 4.2(SD± 1.9) and Moslems, 4.6(SD± 1.8), not statistically significant, ($t=0.98$, $P=0.328$).

The mean score for the doctors was 5.29 (SD ±0.73), for the nurses 4.42 (SD ±1.63), and for the other health workers 3.66 (SD±2.18), which is statistically significant ($F=6.12$, $P=0.003$). Further test showed that the difference was statistically significant only between nurses and other health workers, and between doctors and other health workers, but not significant between the nurses and the doctors.

Three (21.4%) of the doctors would accept early termination of affected pregnancy, while 31 (32.0%) and 21(32.3%) of the nurses and the other health workers, respectively, would accept termination of affected pregnancy; this was not statistically significant ($\chi^2 = 0.69$, $df=2$, $P=0.71$)

Table II: Acceptance of Termination of affected pregnancy by health workers.

Variables	No (%)	
	YES	NO
Profession		
Doctors	3 (21.4%)	11 (78.6%)
Nurses	31 (32.0 %)	66 (68.0%)
Other health workers	21 (32.3%)	44 (67.7%)

$$\chi^2 = 0.69, df=2, P=0.71$$

DISCUSSION

The doctors and the nurses had a good knowledge of the complications of SCD in pregnancy, this is not surprising, since they have the most direct contact with the patient in health care delivery system; however, it is surprising that this knowledge did not translate into acceptance of early termination of affected pregnancy. This attitude of health workers to abortion had been a problem to prenatal diagnosis even in developed countries, where it had been practiced as far back as 1978, and this had excluded provision of prenatal diagnosis within some of their health systems.^{9, 11, 14} In this study, 86.9% and 13.1% were Christians and Moslems, respectively and their mean scores were not significantly different, this religious inclination, coupled with the restrictive abortion law of Nigeria may be responsible for the attitude of health workers to pregnancy termination^{13, 15}.

This study is at variance with a similar study in the region carried out among well informed educated Nigerians in which up to 45% would opt for termination of affected pregnancy¹¹; the difference may be due to the fact that all the respondents in our study were females who always carry the pregnancy, and emotional attachment to the unborn child could not be ruled out as a factor for rejecting pregnancy termination

CONCLUSION

If health workers who are suppose to educate the populace on benefit of prenatal diagnosis and management do not accept early termination of affected pregnancy, then more emphasis should be on genetic counseling as a measure for controlling sickle cell disease in Nigeria.

References

1. Lawson JB. Sickle Cell Disease in Pregnancy. In: Lawson JB, Stewart DB (Eds). *Obstetrics and Gynaecology in the tropics and developing countries*. London: Edward Arnold (publishers) Ltd. 1967: 100-119
2. Oyedeki GA. The effects of sickle cell disease on the families of affected children (letter). *Central Afr Med J*. 1995; 41 (10): 333-334
3. Rappaport VJ, Velazquez M, Williams K. Haemoglobinopathy in pregnancy. *ObstetGynecol Clin North Am*. 2004; 31 (2): 287-317
4. Leborgne-Samuel Y, Kadhel P, Ryan C, Vendittelli F. Sickle cell disease and pregnancy. *Rev Prat*. 2004; 54 (14): 1578-82
5. Dare FO, Makinde OO, Fasuba OB. The obstetrics performance of SCD patients and homozygous C disease patients in Ile-Ife, Nigeria. *Int J Gynae Obstet*. 1992; 37: 163-165
6. Serjeant GR, Loy LL, Crowther M, Hambleton IR, Thame M. Outcome of pregnancy in homozygous sickle cell disease. *Obstet Gynecol*. 2004; 103 (6): 1278-85
7. Odum CU, Anorlu RL, Dim SI, Oyekan TO. Pregnancy outcome in HbSS- sickle cell disease in Lagos, Nigeria. *West Afr J Med*. 2002; 21 (1): 19-23
8. Rhimy M.C., Gangbo A, Adjou R, Deguenon C, Goussanou S, Alihonou E . Effect of active prenatal management on pregnancy outcome in sickle cell disease in an Africa setting. *BLOOD*; 96 (5): 1685-88
9. Hobins JC, Mahony MJ. In utero diagnosis of haemoglobinopathies: Technique for obtaining fetal blood. *N Engl J Med*. 1974; 290: 1065-1067
10. Loader S, Sutera CJ, Walden M, Kozra A, Rowley PT. Prenatal screening for haemoglobinopathies II: Evaluation of counseling. *Am J Human Genet*. 1991; 48: 447-51
11. Durosinmi MA, Odebiyi AI, Akinola NO, Adediran LA, Aken 'Ova Y, Okunade MA, Halim NK, Onwukeme KE, Olatunji PO, Adegoroye DE. Acceptability of prenatal diagnosis of sickle cell anaemia by a sample of the Nigeria population. *Afr J Med Med Sci*. 1997; 26 (1-2): 55-58
12. Akinyanju OO, Disu RF, Akinde JA, Adewole TA, Otaigbe AI, Emuveyan EE. Initiation of prenatal diagnosis of sickle- cell disorders in Africa. *Prenat Diagn*. 1999; 19(4): 299-304
13. Kagu MB, Abjah UAM, Ahmed SG. Awareness and acceptability of prenatal diagnosis of sickle cell anaemia among health professionals and students in north eastern Nigeria. *Nig J Med*. 2004; 13 (1): 48-51
14. Kan YW, Dozy AM. Antenatal diagnosis of sickle cell anaemia by DNA analysis of amniotic fluid cells. *Lancet*. 1978; ii: 910-912
15. Oye-Adeniran BA, Adewole IF, Umoh AV, Iwere N, Gbadegesin A. Induced Abortion in Nigeria: Findings from Focus Group Discussion. *Afr J Reprod Health*. 2005; 9(1): 133-141

ERRATA

