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Characteristics of menstruation in sickle cell disease patients attending a tertiary health care Centre in Northern Nigeria

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INTRODUCTION

Sickle cell anaemia, a monogenic inherited disorder, is the most common haemoglobinopathy affecting millions of people predominantly in Africa, the Middle East and Mediterranean. There has been a significant reduction in mortality observed in patients over the years due to wide exploration of the pathophysiology, improved diagnostic and therapeutic approaches. Amongst which are neonatal screening, vaccination for microbial prophylaxis, multidisciplinary treatment approach and the use of hydroxyurea.

AIM

The aim of the study is to determine the menstrual characteristics in sickle cell anaemia and to compare the age of attaining menarche in them with normal controls.

METHOD

A cross sectional study of 100 patients with homozygous (HBSS) sickle cell anaemia recruited from routine outpatient clinic visit at the haematology unit of the University of Maiduguri Teaching Hospital. Thirty (30) apparently normal individuals (controls) amongst consenting medical students matched for age were also recruited. The study was carried out over a period of six (6) months. A questionnaire on menstrual characteristics and demographic variables was administered. Anthropometric parameters were also recorded. The responses were entered into Microsoft excel sheet (version 2013) and subsequently analyzed using SPSS version 20

RESULTS

A total of 100 HBSS with mean age of 24.86 yrs (range 16-40) and 30 HBAA with mean age of 24.6yrs (range 16-39) were studied (table 1). The mean age at menarche in is 15.00yrs and this was observed in 91 %(91) of the subjects leaving 9 % (9) pre-menarcheal while that of the control was 13.57yrs observed in 100% (30) of the subjects (*p =0.000*). The mean duration of flow was shorter in the study group than that of the control at 4.23days versus 5.43days (*p=0.008*) while the difference in the cycle length showed no statistical significance 25.84days versus 27.43 *(p=0.224)* (table 2). Using anthropometric measurements, comparison between menarcheal and pre-menarcheal subjects showed significant difference in weight (p=0.002), Body mass index BMI (P=0.004), and Body surface area BSA (p=0.005) respectively.

Table 1: **Menstrual characteristics in the study population**

PARAMETERS	MEAN (n)	SD	*P*
Age (Yrs)			
HbSS	24.86	6.97	**0.455**
HbAA	24.60	6.16	
Age at Menarche (Yrs)			
HbSS	15.00	5.58	**0.000**
HbAA	13.57	1.52	
Duration of flow (days)			
HbSS	4.23	1.95	**0.008**
HbAA	5.43	1.31	
Cycle length (days)			
HbSS	25.84	10.19	**0.224**
HbAA	27.43	2.26	

Table 2: Comparison of menarche amongst Sickle cell anaemia subjects

PARAMETERS	MEAN(n)	SD	*P*
AGE (yr)	**25.65**	**6.78**	**0.000***
Attained menarche			
No menarche	**16.89**	**2.42**	
WEIGTH (kg)	**49.52**	**9.60**	**0.002***
Attained menarche			
No menarche	**38.63**	**6.63**	
BMI(kg/m^2)	**19.71**	**3.09**	**0.004***
Attained menarche			
No menarche	**15.87**	**2.23**	
BSA(m^2)	**1.49**	**0.15**	**0.005***
Attained menarche			
No menarche	**1.30**	**0.16**	

CONCLUSIONS

Our study revealed a delay in the predicted time of onset of menarche in patients afflicted by sickle cell disease in accordance with previous reports. We also observed shorter menstrual cycles with a scanty blood flow thought to serve as check and balance system for the chronic anemia in the patients compared to the normal controls. This study gives an insight into the characteristics of menstruation in sickle cell patients and its knowledge will provide avenue for further counselling and management of these group of patients.

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