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Dysmenorrhoea and menstrual abnormalities among postmenarcheal secondary school girls in Maiduguri Nigeria

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Summary

Four Hundred and fifteen post menarcheal secondary school girls selected randomly from six secondary schools in Maiduguri metropolis were interviewed with the aid of questionnaires to find out their ages at menarche and associated menstrual problems, regularity of menstrual cycle, menorrhagia and dysmenorrhoea within the first two years following menarche. Their ages ranged between 12 and 21 years. Twenty six students were three months post menarche, 187 were 4 – 12 months post menarche. The mean menarcheal age was 13.6 years. Menorrhagia was a very rare form of menstrual abnormality. Early menarche especially between the ages of 12 to 14 years was found to be associated with higher frequency of irregular menstrual cycles while this improves with late onset menarche. About 45% had one form of menstrual abnormality, amenorrhoea (4.6%), oligomenorrhoea (18%) and polymenorrhoea (21%). These were almost uniformly associated with all groups. Over 80% had attained menarche by age of 14 years. Dysmenorrhoea was just slightly commoner by the ages of 15 and 16 years when it occurs more frequently.

Keywords: *Dysmenorrhoea, menstrual abnormalities, postmenarche, secondary school girls.*

Résumé

Quatre cents et quinze filles (ecolieres) post-menarcheal sélectionnées de six lycées d'une ville Métropole du Maiduguri ont été interrogées par l'aide de questionnaires pour trouver leurs âges à menarche et les problèmes menstruels, la régularité du cycle menstruel, le menorragie et le dysmenorrhée dans les premières deux années menarche suivants. Leurs âges sont entre 12 et 21 ans. Vingt six étudiants étaient trois mois poste-menarche, 187 étaient 4 - 12 mois post-menarche. Le menarcheal moyen avait 13.6 ans. Le menorragie était une forme très rare de caractère anormal menstruel. Le menarche le plus tôt a été trouvé decourvert d' être associé avec le plus haute fréquence de cycles menstruels irréguliers surtout entre les âges de 12 à 14 ans pendant que cela s' améliore avec le menarche du début tardif, Pres de 45% avaient une forme de caractère anormal menstruel, aménorrhée (4.6%), l'oligomenorrhée (18%) et le polymenorrhée (21%). Ceux-ci ont été associés avec tous les groupes presque uniformément. Plus de 80% avaient atteint le menarche par l' âge de 14 ans. Le dysmenorrhée était un peu plus commun a l' âge de 15 et 16 ans.

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Introduction

Menarche is an important index of growth and development in women [1]. It is the first menstrual period at puberty and marks the onset of reproductive capability in the individual. Menstrual cycles in the adolescent tend to be infrequent and amenorrhoea is also common [2]. This has been attributed to the fact that menstrual cycles in this age group tend to be anovulatory as the positive oestrogen feedback effect that induces mid cycle LH surge is absent [3,4].

Primary dysmonorrhoea on the other hand, is a feature of ovulatory cycles [5]. It is common in young women in their teens, usually 2 – 4 years after the menarche, reaches maximum between the ages of 18 and 24 years and thereafter diminishes due to pregnancy and childbirth [2,5,6]. This study was therefore undertaken to determine the age of menarche and patterns of menstrual disorders and the prevalence of dysmenorrhoea among secondary school girls in Maiduguri, in the north – eastern part of Nigeria.

Patients and methods

This prospective study was conducted over a 12 month period, January to December 1996 in Department of Anatomy and Obstetrics and Gynaecology, University of Maiduguri, Maiduguri. Maiiduguri is the capital of Borno State, located in the north – estaren corner of Nigeria.

Systematic random/quota sampling was used in selecting schools visited. In conducting interviews, physical examination and data collection, the 6 districts (14 wards) were divided into 6 geographical regions each with 4 regions giving a total of 24 regions. A secondary school each was randomly selected for this study.

In each of the schools selected, the girls in each of senior classes were selected by simple random sampling method. A total of 657 girls were selected; of this number 242 had never experienced menstruation, the remainder 415 were therefore studies.

The questionnaires/data forms were designed to obtain data on age of menarche. Other information collected were the prevalence of dysmenorrhoea and irregular menstruation as well as the pattern of menstruation within 24 months following menarche.

Results

Out of the 657 girls that responded to the questionnaires 415 were already menstruating and they form the basis for this analysis. Their mean age was 15.2 ±0. 39 (SD) years

Table I: Age of girls at interview

Age	n – 415 No. (%)
12	2 (0.5)
13	20 (4.8)
14	82 (19.8)
15	152 (36.6)
16	125 (30.1)
17	25 (6.0)
18	8 (1.9)
21	1 (0.2)
Total	415 (100)

Mean age at interview – 15.2±0.39 (SD)
% in parenthesis

Table 2: Age at menarche

Age	n – 415 No. (%)
10	1 (0.2)
11	9 (2.2)
12	50 (12.0)
13	144 (34.7)
14	140 (33.7)
15	55 (13.3)
16	16 (3.9)
Total	415 (100)

Mean menarche age – 13.6±0.3 (SD)

cheal and 177 were 13-24 months post menarcheal. The menarcheal age as showinn by Table 2 was 13. 6±0.3 (SD) years. Majority of them had attained menarche by the ages of 13 and 14 years.

Menorrhagia was a very rare form of menstrual abnormality (0.7%). Overall, about 45% had one form of menstrual abnormality, amenorrhoea (4.6%), oligomenorrhoea (18.1%) and polymenorrhoea (21.2%). These were virtually occurring almost uniformly in all age groups. Over 80% had attained menarche by age of 14 years (Table 3).

Although dysmenorrhoea was observed in all groups it was found to be just slightly common but occur often by the ages of 15 and 16 years (Table. 4).

Table 4: Occurrence of dysmenorrhoea

Menarche Age	F	Often No (%)	Sometimes No (%)	Never No (%)	Not sure No (%)
10	1	-	-	1(100)	-
11	9	1(11)	3(33)	5(56)	-
12	50	14(28)	27(54)	8(16)	1(2)
13	44	27(18)	66(46)	47(33)	4(3)
14	140	23(16	69(49)	45(32)	3(3)
15	55	10(18)	18(33)	26(47)	1(2)
16	16	4(25)	5(31)	6(38)	1(6)
Total	145	79	188	138	10

By the end of 18 months postmenarche virtually all menstrual abnormalities had resolved. However, dysmenorrhoea persisted in % of the girls after 2 years.

Discussion

The mean menarcheal age in Nigeria has been observed to be falling over the years [1,9,10,11] The average age at menarche in this study is lower than the previous studies

Table 3: Occurrence of irregular menstruation

Menarche Age yrs	F	Menorrhagia Often No (%)	Menorrhagia Sometimes No (%)	Oligomenorrhoea Ofen No (%)	Oligomenorrhoea Sometimes No (%)	Polymenorrhoea Often No (%)	Polymenorrhoea Sometimes No (%)	Amenorrhoea Often No (%)	Amenorrhoea Sometimes No (%)	Never No (%)	Not sure No (%)
10	1	-	-	1 (100)	-	-	-	-	-	-	-
11	9	-	-	-	-	1 (11)	2 (22)	-	-	6 (67.0)	-
12	50	-	-	6 (12.0)	4 (8.0)	4 (8.0)	4 (8.0)	2 (4.0)	-	28 (56.0)	2 (4.0)
13	144	-	-	10 (6.9)	6 (4.2)	6 (4.2)	25 (17.4)	4 (2.8)	4 (2.8)	80 (55.6)	5 (3.5)
14	140	-	1 (0.7)	4 (10.0)	20 (14.3)	20 (14.3)	20 (14.3)	3 (2.1)	1 (0.7)	75 (53.6)	1 (0.7)
15	55	-	1 (0.8)	4 (7.3)	10 (18.8)	10 (18.8)	10 (18.8)	1 (1.8)	1 (1.8)	22 (40.0)	1 (1.8)
16	16	-	1 (6.2)	2 (12.5)	1 (6.2)	1 (6.2)	-	1 (6.2)	-	9 (56.3)	1 (6.2)
Total	415	-	3 (0.7)	37 (8.9)	41 (9.9)	41 (9.9)	61 (14.7)	11 (2.6)	8 (1.9)	221 (53.2)	10 (2.4)

The girls studied were aged between 9 and 21 years. Out of this number 242 (36.8%) had never experienced menarche while 415 (63.2%) had been menstruating at least three times at the time of the interview.

At the time of interview, 23 of them were three months post menarche, 187 were 4-12 months post menar-

quoted above. The falling trend of age of menarche in this country has been attributed to a gradual improvement in the standard of living health and nutrition especially in the urban areas [12].

The pattern menstrual abnormalities particularly polymenorrhoea and oligomenorrhoe, may not be unre-

lated to anovulation or abnormal follicular growth and development [3].

Menorrhagia and amenorrhoea were less common. The menstrual patterns begin to take the route of normality after 6 – 12 months postmenarche, and by 18 months after menarche most should have resolved.

Early menstrual cycles after menarche are mostly irregular and anovular [3] This is due to the gradual physiological waxing and waning of the endocrine cycle. It however tends to correct itself within a few years [2].

Primary dysmenorrhoea on the other hand is a feature of ovulatory cycles [5]. It has been stated that true dysmenorrhoea reaches a maximum level between the ages of 18 and 24 years and thereafter diminished [13]. This study had therefore shown that in this part of the country, early menarche and the menstrual cycles following it may be mostly anovular whereas ovulatory cycles tend to be established early with late menarche onset.

This is however, at variance with the findings of Marinho and Marinho [14] whereby 82% of post menarche girls still had irregular cycles by the end of two years post menarche. This variation may be due to variations in economic standards which may be better in the south or additionally it may be due to climatic and dietary differences.

These findings can assist greatly in the planning of family life education including contraception for our adolescent school girls.

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