Age at Menarche and the Menstrual Pattern of Igbo Women of Southeast Nigeria

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ABSTRACT

This study determines the age at menarche and menstrual pattern of an Igbo population in 12 randomly selected rural communities of Ebonyi State. Information on recalled ages at menarche, menstrual flow duration and cycle length was collected using a semi structured questionnaire over three months. 1209 women of reproductive age were interviewed.

The mean age at menarche was 15.0 years and this declined over the years. The mean menstrual flow duration and cycle lengths were 3.3 days and 29.7 days respectively. Only 10.2% had a menstrual cycle length of 28 days.

Account should be taken of the average length of 29-30 days in the rural Igbo population when calculating the expected date of delivery and in the family planning clinics. (*Afr Reprod Health* 2008; 12[1]:90-95).

RÉSUMÉ

L'âge à instauration des règles et aspects de la menstruation chez les femmes Igbo du sud-est du Nigéria
Cette étude détermine l'âge à l'instauration des règles et les aspects de la menstruation au sein de la population igbo dans 12 communautés rurales de l'Etat d'Ebonyi qui ont été sélectionnées au hasard. Les renseignements sur les âges rappellés à l'instauration des règles, la durée de l'écoulement menstruel et la longueur du cycle ont été collectionnés au cours de trois mois à l'aide d'un questionnaire semi structuré. 1209 femmes en âge de procréer ont été interrogées. L'âge moyen à l'instruction des règles était de 15,0 ans et ceci a baissé au cours des années. La durée de l'écoulement menstruel moyen et les longeurs des cycles étaient de 3,3 jours et 29,7 jours respectivement. Il n'y a que 10,2% qui avaient une longueur de cycle menstruel de 28 jours. Il faut se rendre compte de la longueur moyenne de 29 – 30 jours dans la population rurale igbo quand il s'agit de calculer la date présumée de l'accouchement et dans les cliniques de la planification familiale. (*Rev Afr Santé Reprod* 2008; 12[1]:90-95).

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Introduction

The attainment of menarche implies sexual maturity and marks the initiation of the female reproductive life. For many women, regular menstruation or eumenorrhoea demonstrates feminity and assures fertility, while for some others, it is an unwelcome event[1]

The current and increasing, global interest in sexual and reproductive issues notwithstanding, many developing countries remain pre occupied with the major health concerns of high maternal and perinatal mortality[2], the HIV/AIDS pandemic and other poverty-related health problems. The mean Nigerian maternal mortality ratio of 1000 per 100,000 live births is among the highest in the world[3]. In the context of the developing poor countries therefore, adverse menstrual disorders that may be important indices of gynaecological morbidity receive relatively little attention. When severe, menstrual disabilities such as dysmenorrhoea, menorrhagia, migraine and breast discomfort affect the physical, emotional and social well-being of the women and frequently result in work-related economic adversity.

In many instances, women's understanding of normal menstrual function and variability may be lacking[1,4]. Little information is available on the subject of menstruation among the Igbo women of Southeast Nigeria, and none for the women of Ebonyi State of that region. This community-based cross sectional study provides data on age of menarche and the menstrual pattern of Igbo women in Ebonyi State of Nigeria.

Materials and Methods

The Igbos constitute one of the three major ethnic groups of Nigeria, the others being the Hausa-Fulanis of the North and the Yorubas of the West. They live mainly in the eastern part of the country occupying an area measuring 25,522km². Political upheavals after independence in 1960 lead to the subdivision of the existing four administrative regions first, into 12 states in 1967 and subsequently into 19 states in 1976. Additional creation exercises in 1987, 1991 and 1996 further partitioned the essentially ethnic-based regions of the central Federal government into 36 constituent administrative units and a Federal capital territory with an overall estimated population of 130 million. Ebonyi Stsate created in 1996 and inhabited by the Igbos occupies a land mass of 5932 km² and 1991 estimated population of 1.8 million. They are mainly Christians and animists and about 75% live in the rural environment.

A retrospective cross-sectional survey of Igbo women living in 12 randomly selected rural communities within Ebonyi State was carried out over a ten-week period March 2 to May 11 2005. The Community Medicine Department of the Ebonyi State University that was blinded to the study selected the communities. Seventy-five 500-level medical students on rotational posting through the Community Medicine department were recruited and trained for the survey by the principal investigator.

Data for this study was collected as part of a larger study investigating the sexual and menstrual health of rural Igbo women in Ebonyi State using a semi structured questionnaire with 32 open ended questions. One thousand five hundred questionnaires were distributed among the subjects. Literate women completed their questionnaires; students who were conversant with the local dialect assisted the illiterates. The women were randomly recruited from the market places in the various communities. Excluded from this study were women a history of irregular or abnormal menstruation, those who could not correctly recall their menstrual events and women previously investigated for dysfunctional uterine bleeding. Also excluded were peri- and post menopausal women and those who had complaints of amenorrhoea. Information obtained related to the socio biological charac-teristics of the subjects, age at menarche, expectation at menarche, duration of menstrual flow and cycle length.

The returned questionnaires were sorted and incompletely filled forms were discarded. Data

obtained was analyzed using the epi info statistical software package version 3.2.

Results

Of the one thousand and five hundred questionnaires distributed to the women, 1209 (80.6%) were correctly filled and were analyzed.

Table 1 shows the socio biological variables of the study population. Five hundred and sixty-eight (47.0%) were aged between 20 to 29 years. One hundred and twenty-five (10.3%) were teenagers and 47 of the 1209 women (3.9%) were aged 50 years or above. Half of the respondents were pf parity 1 to 4. Grandmultiparas and nulliparas constituted 28.5% and 21.5% of the subjects respectively. Five hundred and sixty-nine women (47.1%) had primary education and 441 (36.5%) no formal education.

Information relating to the age of the women at menarche is shown in Table 2. There was little variation between the age ranges at menarche for the various age groups. It generally ranged from 10 years to 18 years. However the mean ages at menarche for the various age brackets showed a declining trend as evident also in Table 2. The overall mean age at menarche for our study was 15.0±2.0 years.

The mean duration of menstrual flow and cycle length were 3.3 (±0.9) days and 29.7 (±2.4) days respectively (Table 3). Though no consistent trend was observed, the mean menstrual flow duration decreased from 4.2 days in the teenagers to 2.1 days for those 50 years and above. Meanwhile no trend was apparent in the mean menstrual cycle lengths. The total mean within 2 standard deviations was 29±2.4 days.

Details of the variations in the duration of menstrual flow of the women, over the last five years were shown in Table 4. Eighty percent of the teenagers had variations with 46.4% having an increase of 1 to 2 days in their flow duration; 16.8% had a decrease in flow duration. The least variation was observed in those aged 50 years and above, and this was mainly due to 1- 2 days decrease in menstrual flow duration. Generally, 441 (36.5%) women observed variations in their menstrual flow duration. 275 women (22.8%) had an increase in their flow duration while 166 (13.7%) had a decrease. One to two days changes in flow (increase or decrease) was commoner than changes of three days or more.

Table 1. **Socio biological Characteristics of the Respondents (n=1209)**

Parameter	Number	Percentage
Age (years)		
≤19	125	10.3
20-29	568	47.0
30-39	279	23.1
40-49	190	15.7
≥ 50	47	3.9
Parity		
0	261	21.5
1-4	604	50.0
≥5	344	28.5
Educational Status		
No formal education	441	36.5
Primary School	569	47.1
Secondary School	178	14.7
Post secondary/Tertiary	21	1.7

Table 2. **Age at Menarche among the Respondents**

Age groups (years)	Mean age (range) years
≤ 19	14.3 (10-18)
20-29	14.9 (11-17)
30-39	15.4 (11-16)
40-49	15.1 (13-18)
≥50	15.3 (12-17)
Total Mean ±2SD	15.0±2.0

Table 3: **Ranges and Mean duration of Menstrual flow and Cycle lengths (n=1209)**

Age Group (Years)	Menstrual Flow Mean (Range) days	Cycle Length Mean (Range) days
≤19 (n=125)	4.2 (2-8)	33.1 (23-33)
20-29 (n=568)	3.2 (2-8)	28.3 (22-32)
30-39 (n=279)	3.7 (2-7)	29.2 (24-31)
40-49 (n=190)	2.9 (2-7)	31.5 (26-35)
≥50 (n=47)	2.1 (1-5)	32.7 (29-39)
Total	3.3 ± 0.9 (1-8)	29.7 ± 2.4 (22-36)

Table 4: **Variations in menstrual flow duration among the respondents in the last five years. (n=441)**

AGE GROUPS (years)	Increase 1-2 days N (%)	Increase ≥3 days N (%)	Decrease 1-2 days N (%)	Decrease ≥3 days N (%)
≤19	58 (46.4)	21 (16.8)	12 (9.6)	9 (7.2)
20-29	96 (16.9)	44 (7.8)	99 (17.4)	9 (1.6)
30-39	23 (8.2)	19 (6.8)	18 (6.5)	2 (0.7)
40-49	11 (5.8)	2 (1.1)	13 (6.8)	0 (0.0)
≥ 50	1 (2.1)	0 (0)	3 (6.4)	1 (2.1)
Total	189 (15.6)	86 (7.1)	145 (12.0)	21 (1.7)

Discussion

Menarche marks the initiation of a woman's reproductive capacity and in some African societies where early marriages are rife implies that the girl has attained marriageable age. The mean age at menarche of 15 years in this study was higher than those noted in other parts of the wworld[5-7] and in secondary students in Northern Nigeria[8-9]. Menarche may be influenced by various environmental factors including nutrition. Several studies have reported earlier menarche among urban residents than among rural dwellers[7,9]. The higher mean age at menarche in this series, may be accounted for by the poor nutritional status of women in the rural communities. Improved maternal nutrition antenatally, ,as well as children's' nutrition over the years may partly be responsible for the consistent decline in menarcheal ages noted in the various studies[5,8,10.]. This declining trend was also evident in our study. This trend is of significance for obstetric and gynecological practice in our environment. With declining age of menarche and in cultures where early marriages occur as do in rural Ebonyi State, complications

of pregnancy such as induced abortion, pre eclampsia and obstructed labour which are commonly encountered in teenagers, may be expected to increase. In an earlier study, adolescents accounted for over 23% of hospital maternal mortalities at the Ebonyi State University Teaching Hospital[11], many more suffered grave morbidities including vesico vaginal fistula.

Normal menstruation occurs as a result of a postovulatory endometrial shedding following withdrawal of Estrogens and Progesterone[10].

Changes in the appreciated normal pattern in terms of flow duration, volume and cycle length may occur through a woman's reproductive life especially in the immediate postmenarcheal and premenopausal periods. Our calculated mean duration of menstrual flow of 3.3± 0.9 days and normal ranges of duration tallied with the average reported in literature[10,12].

In this study, the mean duration of flow tended to decrease with age. The mean cycle length of 29.7±2.4 days was however marginally longer than the average 28 days widely reported in literature and upon which certain obstetric assumptions such as the expected date of delivery are based[13]. Only 10.2% of our subject had a 28 day menstrual cycle, a figure comparable to the 9% reported by Jeyaseelan[14] in 1992. Consideration must also be given to this in the Family Planning setting when decisions for the natural methods are made based on a 28 day cycle length.

Many of the women recognized changes in their 'normal' menstrual pattern including the flow duration. A total of 441 of the 11209 women studied (36.5%) observed changes in the duration of the menstrual flow over the last five years. A majority of them had one to two day increases in the duration of flow. Such rises in flow duration were more prevalent in the younger age groups while decreases in mean flow duration occurred more frequently in women aged 40 years and above. These changes, not considered abnormal to merit medical consultations by the women, may be attributed to the delicate balance

in hormonal and endometrial interplay which may be influenced by mental, physical, environmental and psychological factors. The oligovulation prevalent in the younger age group and peri menopausal women may partly account for the increase in such changes found within these groups.

Conclusion

Menstrual health is fundamental to women's sexual and reproductive health. Changes in the normal menstrual pattern of women may affect their physical and psychological well-being. This study has established the mean age at menarche and the pattern of menstruation among rural Igbo women of Ebonyi State. Account should be taken of the average cycle length of 29-30 days of the women when obstetrical calculations such as the expected date of delivery are determined as well as in family planning clinics

Acknowledgment

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