

Advanced Maternal Age: Correlates and Awareness of Complications among Antenatal Clinic Attendees in a Northern Nigerian Tertiary Hospital

Rabi'at Aliyu Muhammad, Adebisi Gbadebo Adesiyun.

Department of Obstetrics and Gynaecology, Ahmadu Bello University /Teaching Hospital, Zaria

*Correspondence: Dr Aliyu RM, Department of Obstetrics and Gynaecology, Ahmadu Bello University Teaching Hospital, Zaria Nigeria. Email: rabaahmb@ymail.com. Tel: +2348037016884

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ABSTRACT

Background: Pregnancy at Advanced Maternal Age (AMA) has been considered to be high risk because of increased perinatal and obstetric complications. AMA is on the increase in the western world. Similarly, in the developing world, an increasing number of females are preoccupied with career pursuit and achievement towards improved remuneration and economic stability before marriage. Thus, we aimed to determine the prevalence of AMA; its correlates and awareness of pregnancy complications associated with AMA. **Methodology:** A cross-sectional study with a structured questionnaire administered to 280 pregnant women attending antenatal clinic in a northern tertiary hospital to obtain information about their socio-demographic characteristics, reproductive profile, reasons for pregnancy at AMA, and awareness of complications associated with pregnancy at AMA. Data were analysed using SPSS version 20. The level of significance was set at $p < 0.05$. **Results:** The Prevalence of AMA was 13.9% (39/280). Of women of AMA, 56.4% had tertiary education; 82.1% were in their first order of marriage; 87.2% were multiparous; 51.3% had their first birth before age of 25 years and also had at least 2 living children. The majority (61.5%) of the pregnancies at AMA were intended and desirability for more children was the commonest reason. The majority (67.9%) were aware that pregnancy at AMA is likely to be complicated by chronic medical illness but fewer women were aware of obstetric complications associated with AMA. About two-thirds of women of AMA had delayed initiation of antenatal care and 26.7% had attempted terminating pregnancy at an earlier gestational age. **Conclusion:** The prevalence of AMA reported in this study was higher than the multi-country prevalence. Women of AMA were mostly multiparous and the index pregnancy was intended largely because of the women's desire for more children. Awareness of obstetric complications associated with AMA was poor. Thus, increasing awareness among women will enable them to make informed choices about getting pregnant at AMA.

Keywords: Advanced maternal age, Pregnancy, Prevalence, Awareness, Correlates



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INTRODUCTION

Advanced maternal age (AMA), also referred to as late maternal age refers to a population of pregnant women aged 35 years or more.^[1, 2] Pregnant women aged ≥ 44 years are termed very advanced maternal age, mature gravida, or extremely elderly gravida.^[2] A young mother giving birth is exposed to both social and medical problems while pregnancy at AMA is largely a medical problem.

Globally, there is a steady increase in age at first birth.^[3,4] In developed countries, there is a growing trend of delayed childbearing thus increasing the number of pregnancies occurring later in women's life; with the proportion of first births occurring in women aged ≥ 35 years nearly tripling over two decades.^[2] However, many women in developing countries continue childbearing even after the age of 35 years because of the high incidence of high fertility rates due to widespread desire for large families in these countries.^[5] Rising education levels among women, effective birth control, advances in assisted reproductive technology, an increasing number of women in the workforce, increasing age of first birth, delayed marriages, increasing rates of divorce followed by remarriages, and the interval between births as women's status increases have increased the proportion of older women turning in to motherhood.^[1,6,7] The prevalence of AMA has been reported to be 21.3% in Western Asia.^[8] In a WHO multi-country survey conducted largely among developing countries, the prevalence of AMA was found to range from 2.8% in Nepal to 31% in Japan with a prevalence of 12.3%.^[1] In Nigeria, the reported prevalence of nulliparous women of AMA ranged between 0.42%-1.6%.^[9,10]

Pregnancy at AMA has been considered to be high risk because of increased perinatal and obstetric complications. Miscarriages, chromosomal anomalies, hypertensive disorders, diabetes mellitus, operative deliveries, and perinatal and maternal mortalities are increased in women of

AMA compared to their younger counterparts.^[1,11,12] With the trend of pregnancy at AMA increasing in the western world; many developing countries adopting the western style of female career; in the world of the increasing availability of effective contraception coupled with high parity been prevalent in many African societies;^[5] we aimed to study the burden and correlates of AMA among pregnant women in a tertiary teaching hospital.

METHODOLOGY

The study was a cross-sectional descriptive study conducted among women attending the antenatal clinic of Ahmadu Bello University Teaching Hospital, Zaria-Nigeria. Using consecutive sampling, all consenting pregnant women were recruited from the booking clinic after verbal informed consent has been obtained, till the sample size was attained. A structured interviewer-administered questionnaire was administered to eligible participants to obtain information about their socio-demographic characteristics, reproductive profile, reasons for pregnancy at AMA, and awareness of complications associated with pregnancy at AMA. Strict confidentiality was maintained and all participants continued to receive their routine antenatal care. Ethical approval was obtained from the Health Research Ethical Committee of the Hospital.

AMA is defined as age 35 years or more at the conception of the index pregnancy. Using a prevalence of 21.3% obtained by Alshami,^[9] sample size was calculated to be 280.

Data were analysed using SPSS version 20. The level of significance was set at $p < 0.05$.

RESULTS

Two hundred and eighty respondents were studied. Their age ranged from 17-48 years with a mean age of 28.57 ± 5.3 years. The majority of the

respondents were Hausa (57.5%), Muslims (71.1%) married women (95.7%) who were in their first order of marriage (91.1%). More than half of the respondents had tertiary education (58.6%). These are shown in Table 1.

Table 1: Socio-demographic characteristics of respondents

Characteristic	Frequency (n=280)	Percentage (%)	Characteristic	Frequency (n=280)	Percentage (%)
Age					
15-19	9	3.2	Marital Status		
20-24	53	18.9	Married	268	95.7
25-29	94	33.6	Single	5	1.8
30-34	83	29.6	Widowed	5	1.8
35-39	35	12.5	Divorced	1	0.4
40-44	3	1.1	Non-response	1	0.4
45-49	1	0.4	Education		
Non-response	2	0.7	Primary	2	0.7
Tribe					
Hausa	161	57.5	Secondary	6	2.2
Igbo	15	5.4	Tertiary	268	100
Yoruba	29	10.4	Quranic	164	58.6
Others	75	26.8	None	15	5.4
Religion					
Islam	199	71.1	Non-response	2	0.7
Christianity	81	28.9		4	1.4

Nearly half of the respondents (48.6%) were multiparous and 26.4% were primigravidae. The age at first childbirth of the respondents ranged from 15 to 34 years with a mean age of 22.38 ± 4.46 years. This is shown in Table 2.

Table 2: Reproductive profile of respondents

	Frequency (n=280)	Percentage (%)
Parity		
0	74	26.4
1	63	22.5
2-4	101	36.1
≥ 5	35	12.5
Non-response	7	2.5
Previous miscarriage		
0	207	73.9
1-2	64	22.9
≥ 3	2	0.7
Non-response	7	2.5
No. of children well and alive		
0	71	25.4
1	70	25.0
2-4	96	34.3
≥ 5	23	8.2
Non-response	20	7.1
Age at first childbirth		
15-19	57	20.4
20-24	75	26.8
25-29	54	19.3
30-34	12	4.3
≥ 35	0	0
Non-response	82	29.3

There were 39 women aged ≥ 35 years among the respondents thereby giving the prevalence of AMA in this study to be 13.9%. 'Other' tribes constituted over a third (38.5%) of women of AMA. The majority of women of AMA were Muslims (59%); had a tertiary level of education (56.4%) and were

in their first order of marriage (82.1%) were in their first order of marriage. Only 2.6% were primigravidae while 87.2% were multiparous. This is depicted in Table 3.

Table 3: Socio-demographic characteristics and reproductive profile of pregnant women of AMA

Sociodemographic variable	Frequency (n=39)	Percentage (%)	Frequency (n=39)	Percentage (%)	
Age (years)					
35-39	35	89.7	Order of marriage		
40-44	3	7.8	1 st	32	82.1
≥ 45	1	2.5	$\geq 2^{\text{nd}}$	6	15.4
			No response	1	2.6
Marital status					
Married	38	97.4	Age at first childbirth (years)		
Widowed	1	2.6	15-19	12	30.8
			20-24	8	20.5
			25-29	11	28.2
			30-34	6	15.4
Religion					
Islam	23	23	Non-response	2	5.1
Christianity	16	16	Parity		
Tribe					
Hausa	14	35.9	0	1	2.6
Igbo	1	2.6	1	4	10.3
Yoruba	9	23.1	>1	34	87.2
Others	15	38.5	No. of children alive and well		
Educational level					
Primary	4	10.3	0	2	5.1
Secondary	8	20.5	1	5	12.8
Tertiary	22	56.4	2-4	20	51.3
Quranic	5	12.8	>4	11	28.2
			Non-response	1	2.6

The majority (61.5%) of the women of AMA had intended pregnancy and the commonest reason was the desire for more children (45.8%). Failure to use contraception was the commonest reason (66.7%) for unintended pregnancy at AMA. Only 26.7% (n=4) of women with unintended pregnancy at AMA had failed contraception as shown in Table 4.

Table 4: Desirability and reasons for index pregnancy amongst respondents of AMA

Pregnancy Intent	n = 39	%
Yes	24	61.5
No	15	38.5
Total	39	100
Reasons for intended pregnancy at AMA		
	n = 24	(%)
I delayed childbearing	4	16.7
I want more children	11	45.8
My husband wants more children	1	4.2
Death of other child/children	1	4.2
Change of spouse	2	8.3
Desire for another sex	4	16.7
Others	1	4.2
Reasons for unintended pregnancy at AMA		
	n = 15	(%)
Non - use of contraception	10	66.7
Failed contraception	4	26.7
Improper use of contraception	1	6.7

About two-thirds of the pregnant women of AMA booked the index pregnancy in the second trimester of pregnancy with only 15.4% and 17.9% booked in the first and third trimester respectively.

Of the 15 women of AMA that had unintended pregnancies, 26.7% had attempted to terminate the index pregnancy.

The majority of the respondents (67.9%) were aware that pregnant women of AMA were more likely to have chronic medical illnesses like hypertension and diabetes. However, barely half of the respondents were aware of obstetric complications common to women of AMA. The commonest and least common obstetric complications related to AMA that the respondents were aware of were increased risk of such women having a miscarriage and increased risk of having twin gestation respectively.

Table 5: Awareness of medical/obstetric complications associated with AMA among respondents

	Yes n (%)	No n (%)	No response n (%)	Total
Chronic medical illness	190 (67.9)	80 (28.6)	10(3.6)	280(100)
Miscarriage	145 (51.8)	127(45.4)	8(2.9)	280(100)
Multiple gestation	107 (38.2)	160(57.1)	13(4.6)	280(100)
Bleeding in late pregnancy	129 (46.1)	139(49.6)	12(4.3)	280(100)
To deliver before 9 months	111 (39.6)	157(56.1)	12(4.3)	280(100)
To deliver by caesarean section	144 (51.4)	123(43.9)	13(4.6)	280(100)
Deliver dead babies	120 (42.9)	146(52.1)	14(5.0)	280(100)
Deliver babies weighing less than normal	132 (47.1)	136(48.6)	12(4.3)	280(100)

DISCUSSION

The prevalence of AMA found in this study is lower than the prevalence reported in UAE, Afghanistan, and Japan.^[1,8] This may be due to increased rates of

delayed childbearing contributing more to pregnancy at AMA in such countries compared to their counterparts in developing countries. However, the prevalence found in this study is doubled that reported in Nepal, India, and Nicaragua.^[1] The majority of the pregnant women at AMA studied were multiparous women and intended to be pregnant at AMA largely because of a desire for more children or a specific gender. This may be explained by the societal acceptance of large family sizes and preference for the male gender in many sub-Saharan African settings.^[5,13]

This also lends credence to our finding in this study where a minority of women of AMA had delayed childbearing, similar to the report by Solanke et al in Nigeria.^[14] It can be said from this study that most of the women in our environment do not delay childbearing (because the age at first childbirth in half of the women of AMA in this study was less than 25 years) as seen in developed countries where postponement of parenthood is becoming a defining feature of their fertility trends.^[15] The commonest reason for an unintended pregnancy at AMA in this study was the failure to use contraception. This is a reflection of the poor contraceptive prevalence rate in sub-Saharan Africa, which is one of the recognized indices of poor health quality and has been receiving increasing attention and intervention from the world health community.^[16]

Many developing countries including Nigeria do not have national guidelines on antenatal care but the commencement of antenatal care within the first 14 weeks' gestation is widely accepted as early and many previous workers have defined booking after the 14th week of pregnancy as late.^[17] Delayed initiation of antenatal care is an attitude found to be prevalent among women with unintended pregnancies (mistimed or unwanted).^[17] The majority of pregnant women of AMA in this study though had intended pregnancy but they booked the index pregnancy between 13- 28 weeks of gestation. Thus, these women have missed the benefits of early initiation of antenatal care including the early detection of modifiable pre-

existing medical conditions that may influence the course and outcome of pregnancy^[18] such as chronic hypertension and diabetes mellitus which they are at increased risk of having.

Most of the respondents were aware of the fact that pregnant women of AMA were likely to have chronic medical illnesses but fewer women were aware of obstetric complications. This is in contrast to report among Nigerien women who were largely unaware of risks associated with pregnancy at AMA while the Togolese women showed increased awareness of pregnancies at AMA were more likely to be complicated by maternal and infant mortality.^[19]

CONCLUSION

The prevalence of AMA found in this study was higher than the multi-country prevalence. The women of AMA were mostly multiparous and the index pregnancy was intended largely because of the desire for more children. Delayed childbearing is still not common in our environment. Under-utilisation of family planning services was the commonest reason for unintended pregnancy among women of AMA. Awareness of obstetric complications related to AMA was poor in nearly half of the respondents. Thus, increasing awareness among women will enable them to make informed choices about getting pregnant at AMA.

Conflict of Interest: None

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