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Maternal Health-Seeking Behavior and Associated Factors in a Rural Nigerian Community

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Objectives: To assess maternal health services and health-seeking behavior in a rural community (Ologbo), located in the South–south zone of Nigeria. *Methods*: Structured questionnaire was administered to 225 randomly selected mothers (age 15–49 years), and was analyzed using SPSS. Six focus group discussion sessions were also conducted—four for community women and two for health workers. *Results*: Teenagers constituted 13.3% of the respondents. The average number of children per woman ranged from 2.5 for teenagers to 9.0 for women aged 45–49 years. Eighty percent of respondents knew at least one major medical cause of maternal mortality: the most common causes mentioned were hemorrhage (31.8%) and obstructed labor (17.3%). Private maternity center was the most preferred place for childbirth (37.3%), followed by traditional birth attendants (TBAs) (25.5%). Government facility was preferred by only 15.7%: reasons for the low preference included irregularity of staff at work (31.4%), poor quality of services (24.3%), and high costs (19.2%). Among the 81 women that delivered within a 1-year period, only 9.9% received antenatal care, 6.2% received two doses of tetanus toxoid, while 4.9% attended postnatal clinic. Private midwives and TBAs attended 49.4 and 42.0% of deliveries, respectively. Education was found to be significantly associated with choice of place for delivery ($p < 0.05$), but no association was found with respect to age and marital status. Only 11.4% of mothers were practicing family planning. *Conclusions*: Poor health-seeking behavior is a challenge in rural Nigeria, and interventions are needed to achieve improved maternal health status.

KEY WORDS: maternal health; health behavior; rural; Nigeria.

INTRODUCTION

Maternal mortality is one of the major health challenges currently confronting Nigeria and many developing countries. In view of its recognition as one of the priority development challenges that need to be urgently addressed, the global community has endorsed the reduction of maternal mortality as one of the eight Millennium Development Goals (1). According to the most recent estimates developed by the World Health Organization, the United Nations Children's Fund, and the United Nations Population Fund, approximately 529,000 maternal deaths occurred in 2001, with more than 99% occurring in developing countries (2). Nigeria, with an estimated 37,000 maternal deaths, ranked as the country with the second highest number of maternal deaths in the world (2). The maternal mortality ratio in rural areas, where about two-thirds of Nigerians live (3), is particularly high. According to the 1999 Multiple Cluster Indicator Survey, the maternal mortality ratio in the rural areas (828 maternal deaths per 100,000 live births) is more than double that of the urban areas (351 maternal deaths per 100,000 live births) (4).

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Hemorrhage, infections, complications related to unsafe abortions, toxemias, and obstructed labor are recognized worldwide as the leading medical causes of maternal mortality and are responsible for approximately four-fifths of all maternal deaths (5). Although cost-effective and successful health care interventions exist for these conditions, the reality, presently, is that many women do not have access to such needed services due to several reasons. While the social, political, and economic context of the healthcare system influences access to care, and thereby maternal mortality incidence, maternal healthcare seeking behavior also plays a key role. The general pattern of utilization of maternal health services— including family planning, antenatal care, delivery and postnatal services—and the promptness of seeking care, particularly in cases of obstetric emergencies, all contribute to the incidence of maternal mortality and morbidity. Indeed, health-seeking behavior varies widely among population groups and communities, and is known to be influenced by a number of individual, household, and community factors (6).

The issue of health-seeking behavior of rural Nigerian women is one of the most neglected areas in maternal mortality studies in the country. Most research studies on maternal mortality in Nigeria, as a review of reproductive health studies published by the Federal Ministry of Health (7) showed, are institution-based and/or urban-based in nature. Thus, the rural areas where the majority of Nigerian people live and where the burden of reproductive ill-health is greater have been largely overlooked in research activities. Also, the sociocultural determinants of health such as health-seeking behavior have received scanty attention so far. The present study is a population-based investigation of the factors relating to maternal mortality, and particularly focused on the availability of maternal health services, care seeking behavior in a rural Nigerian community, and factors affecting them such as health beliefs and perception.

METHODOLOGY

Study Area

This study was conducted in Ologbo, a rural community located 29 km south of Benin City, the ancestral home of the *Binis*. Benin City is the capital of Edo State, and one of the leading cities in the oil-rich South–south geopolitical zone of Nigeria. A motorable road links Ologbo community to Benin City but public transport to the city is only available during the daytime. The community has an estimated population of about 9500 persons, of which 1871 were women of reproductive age (8).

Ologbo, historically, belongs to the *Binis* but is currently multiethnic in nature with populations drawn from various ethnic groups in the South–south zone of Nigeria, including: the *Binis* and *Ishans* (tribes from Edo state); the *Ikas*, *Urhobos*, and *Isokos* (from neighboring Delta State); and, the *Efiks* and *Ibibios* (from neighboring Cross-River and Akwa Ibom States). The common languages of communication in the community are *Bini* (the traditional language of the *Binis*) and an adulterated form of English language locally referred to as "*pidgin English*". The community is primarily an agrarian one, although there is the presence of other economic activities such as small-scale plywood outfits and petroleum oil/gas wells.

Availability of Health Services

Three principal forms of maternal health care service sources were available in Ologbo community at the time of the study: a government-owned primary healthcare facility, private maternity services, and traditional birth attendants. The government-owned primary healthcare (PHC) center was the biggest healthcare institution in the community in terms of range of services available and the number of trained healthcare professionals. The center provides a wide range of maternal and child health services, including antenatal, delivery, postnatal, family planning, immunization, child welfare, and curative services. The center had a total of 11 staff: two nursing professionals, four community health extension workers (CHEWs), one pharmacy technician, an orderly, and three security guards. Senior staff of the center (the nursing professionals), by policy, were centrally recruited at the state level and posted to various local government areas (LGA) within the state, while the junior staff were recruited by the LGA itself and could be posted to any community within the LGA. The center had formal referral linkages to secondary and tertiary facilities located in Benin City (Central Hospital and University of Benin Teaching Hospital, respectively). The PHC facility, however, was not providing 24-h service coverage. Rather, services

were being rendered from morning hours (about 8.00 A.M.) till the evening period (about 6.00 P.M.), due to inadequate staff strength for round-the-clock coverage. All the senior staff of the center were staying within the community mainly when on duty, and spent the rest of the time outside the community (in the city) where their families were based.

The private maternal health services were owned and operated mainly by retired midwives. Each center essentially consisted of a single midwife (the facility owner) and a number of "auxiliary nurses"—who were mainly young females that had been trained by the midwives within their own individual facilities. The private maternity centers were providing a wide range of maternal and child health services. At least eight traditional birth attendants (TBA) were providing delivery and related services within the community. The TBAs were native members of the community, and had a long history of community engagement in terms of provision of services to pregnant women, particularly during childbirth. They were also providing limited childcare-related services. Most of the TBAs had acquired their skills either from their own mothers or relatives or through working with other TBAs. The private midwives and TBAs were resident on a permanent basis within the community, and their services were available round-the-clock. Other sources of services regarding maternal health in the community were patent medicine stores and various kinds of traditional healers and spiritualists. These groups of healthcare providers, however, were not handling deliveries but were working more in the area of curative services.

Selection of Study Participants and Data Collection

Women of reproductive age constituted the primary focus of this study, and information was collected from both women and healthcare providers in the community. The study had two aspects: qualitative (in the form of focus group discussions) and quantitative (administered questionnaire). For the quantitative aspect, trained data collectors/field assistants collected information from randomly selected participants using a structured questionnaire. The structured questionnaire aimed, among others, at eliciting responses regarding common maternal health problems experienced by respondents, the available form of care and roles of community-based health service providers in providing care, as well as factors influencing the health-seeking behavior of respondents. The questionnaires were pretested in a neighboring community and appropriately amended before its application in Ologbo. The inclusion criteria for participation in the quantitative aspect of the study were: women of reproductive age (15–49 years) and a history of previous pregnancy. A total of 225 women who met the criteria were selected through a multistage sampling procedure.

Based on the findings of a prestudy rapid population survey and mapping exercise in the community, which provided figures about the number of occupied buildings, average household size, and average number of households in a building, half of the buildings were estimated as being sufficient to supply the needed number of participants. Houses in the community constituted the sampling frame for the first stage of the sampling procedure, and based on the estimation stated above, a systematic sampling method was adopted for this stage with a sampling fraction of one in two houses. The first house to be visited (out of the first two houses) in each of the 21 streets constituting the community was selected by a simple random procedure (tossing of coin), and alternate houses were then visited thereafter. Every household in the selected building with a woman in the reproductive age group was considered as having potential participants. Refusal to freely give consent for participation was an exclusion criterion. Each household with a woman satisfying the inclusion and exclusion criteria in each building was listed and one of them selected randomly. At the final stage of the sampling exercise, one woman was selected from each household by simple random sampling in cases where there was more than one woman meeting the inclusion criteria.

The data collectors/field assistants who administered the questionnaires were female undergraduate medical students of the University of Benin and resident medical doctors in the community health department of the University of Benin Teaching Hospital. The data collectors and field assistants were given a 2-day intensive training prior to the commencement of the study. Data collection was between July and August 1999. One of the authors (MKO) reviewed the completed questionnaires at the end of each day's work to ascertain the quality of the data that was collected. Ethical clearance for the study was obtained from the relevant authority in the University of Benin Teaching Hospital, and

on the whole, standard methods were used in all the data collection processes.

For the qualitative aspect, a total of six focus group discussion (FGD) sessions were organized in the community. The FGD sessions explored the issues of maternal health problems, utilization of services, health-seeking behavior, factors influencing choice of sources of care, and the participants' perceptions regarding the quality of maternal healthcare services being provided at the government health facility. The FGD sessions were conducted after the completion of the quantitative data collection process, for the purpose of triangulating as well as elaborating on the results of the former. Each FGD session involved eight women, on the average.

The FGD sessions were carried out by means of a discussion guide and each session had a moderator and a recorder. Proceedings in the sessions were audiotaped. Four of the sessions were for women in the community while the other two sessions were for health workers. Participants in the women's sessions were stratified by age, parity, and type of occupation (as an indicator of socioeconomic class) to ensure that each group was fairly homogenous. The four FGD groups were structured as follows: i) teenage females (aged 15–19 years), ii) women in reproductive age group (aged 20–49 years) and of parity of not more than four children, iii) grand-multiparous women in reproductive age-group (that is, those with five or more deliveries, and aged between 20 and 49 years), and iv) women in postchildbearing period (50 years and above). For the health workers, one session was held for traditional birth attendants (TBAs) and the other for orthodox health workers. Whereas the FGD session for the orthodox health professionals was conducted in (proper) English language, "*pidgin English*" was used for the other sessions.

Data Analysis

Information from the completed questionnaires was analyzed using the SPSS statistical package. Univariate analysis was carried out with regards to the sociodemographic and obstetric characteristics of study participants, and the results were expressed as frequencies and percentages. The Chi-square test was carried out to assess the association between selected sociodemographic variables (education, age, and marital status) and antenatal care as well as their association with the place of delivery. For this purpose, the cells in the contingency tables were collapsed, which resulted in dichotomous variables for each of the sociodemographic characteristics. In view of the low expected frequencies for some of the cells in the resultant tables, the value of the Fisher's exact test was used in the case of two by two tables, and Yates' correction for others.

For the FGD sessions, the discussions were recorded on audiocassettes, which were later transcribed and translated into English language. The transcribed notes together with the handwritten notes of the recorder were used in the analysis. The analysis identified key themes and dominant ideas on issues relating to maternal health pattern care process, choice of care providers, and pattern of service utilization in the community. Tables were generated on some of the themes on the basis of the degree to which a perspective or an opinion was put forward and agreed on in the different FGD sessions.

RESULTS

Sociodemographic Characteristics

Most of the respondents were below 40 years of age (87.1%): teenagers (15–19 years) constituted 11.8% of the respondents while 49.0% were in their third decade of life (Table I). Majority of the respondents were Christians (76.5%) by religious affiliation and practitioners of traditional religion constituted 18.0%. In terms of educational status, 12.9% of respondents had no formal education, 48.6% had some form of primary education as the highest educational level attained, while the proportion that completed secondary school or higher level of education was 14.2%. Most of the respondents were of low socioeconomic status as shown by their occupation: 39.6% engaged in subsistence farming and 47.8% engaged in petty trading. More than three-quarters of respondents (76.5%) were in marital unions at the time of the study while 14.5% had never married. The *Binis*, with 27.5% of respondents, formed the largest ethnic group, while *Urhobos* constituted 19.2%, the *Ikas* 18.8%, the *Isokos* 5.5%, the *Efik/Ibibos* 5.1%, and a mixture of other tribes constituted the rest of the study sample.

The average number of children recorded for teenage mothers was 2.5 children per woman, and this rose progressively to 9.0 children among women of age 45–49 years (Table II). Twenty percent of respondents had more than four children and 1.2% had as many as nine children or more. The average number of children per mother was 5.9.

Table I. Sociodemographic Characteristics of Respondent, Ologbo, Nigeria (1999)

Sociodemographic characteristic	Frequency ($n = 255$)	%
Age group		
15–19 years	30	11.8
20–24 years	62	24.3
25–29 years	63	24.7
30–34 years	38	14.9
35–39 years	29	11.4
40–44 years	17	6.7
45–49 years	16	6.3
Occupation		
Farming	65	25.5
Trading	86	33.7
Farming combined with trading	36	14.1
Artisans	28	11.0
Civil service	6	2.4
Others	34	13.3
Religion		
Christianity	195	76.5
Islamic	3	1.2
Traditional	46	18.0
Other religious affiliation	6	2.4
None	5	2.0
Education		
None	33	12.9
Primary school	124	48.6
Secondary school	92	36.1
Tertiary education	6	2.4
Marital status		
Never married	37	14.5
Currently married	194	76.0
Divorced	7	2.8
Separated	1	0.4
Widow	16	6.3

Table II. Average Number of Children by Mother's Age Category in Ologbo Community in 1999

Age category	Average number of children
15–19 Years	2.5
20–24 Years	3.8
25–29 Years	5.1
30–34 Years	6.0
35–39 Years	7.7
40–44 Years	7.4
45–49 Years	9.0
Average for all respondents	5.9

Perceptions, Practice, and Preferences Regarding Antenatal Care

The majority of respondents expressed the opinion that antenatal care (ANC) should start before or around the midtrimester: 11.8% indicated that ANC should start as soon as the presence of pregnancy was recognized, 37.3% were of the opinion that ANC should commence before the midtrimester, and 29.8% indicated that ANC should start late in the second trimester (not shown in table). However, 8.2% believed that ANC should commence in the third trimester while 11.8% indicated that they did not know when ANC should commence and 1.2% did not believe that ANC was necessary.

Among the 81 women that delivered within a 1-year period prior to the study, 17 (21.0%) received antenatal care, but only 4 (4.9%) received postnatal care. There was no statistically significant association between selected sociodemographic variables of interest—age, education, and marital association—and the pattern of ANC service utilization (Table III).

Information on common health problems that were being experienced during pregnancy was sought during the FGD sessions. The problems most mentioned at virtually all the sessions, as Table IV showed, were severe nausea and vomiting, paleness, and fatigue. Other conditions also mentioned by many participants included leg swelling, fever, and

Table III. Association Between Selected Sociodemographic Characteristic and Utilization of Antenatal Care Services in Ologbo, Nigeria, 1999

	Received ANC ($n = 17$)	Did not receive ANC ($n = 64$)	Total ($n = 81$)	p-value
Age group				
<35 years	12 (20.7%)	46 (79.3%)	58	
35 years and above	5 (21.7%)	18 (78.3%)	23	1.00
Education				
Less than secondary level	8 (14.5%)	45 (81.8%)	53	
Secondary level and higher	9 (32.1%)	19 (67.9%)	28	0.90
Marital status				
Never married	4 (17.4%)	19 (82.6%)	23	
*Ever married	13 (22.4%)	45 (77.6%)	58	0.76

*The ever married group combines those currently married, the divorced, the separated, and widows.

Table IV. Perspectives of FGD Participants on Common Health Problems During Pregnancy in Ologbo Community, 1999

	Community women			Health workers		
	Teenage females	WRA[a] (parity ≤ 4)	WRA[a] (parity > 4)	PMN[b]	TBAs[c]	Orthodox health workers
Swollen legs	++	++	++	++	++	++
Nausea and vomiting (mild)	++	++	++	++	++	++
Nausea and vomiting (severe)	++	+	+	+	+	+
Lower abdominal pain	+	+	+	+	+	−
Fever	++	+	+	+	++	-
Severe headache	++	+	+	+	+	+
Easy fatigability	++	++	++	++	++	++
Spotting/bleeding per vagina	++	+	+	++	+	+
Leaking water from the vagina	−	+	−	+	+	−
Paleness	++	++	++	++	++	++
Vaginal discharge	+	+	+	+		−

Note. ++, where the opinions were expressed by most of the participants; +, where the opinions were expressed by some respondents; −, where the opinions were not expressed at all.
[a]WRA, women of reproductive age (20–49 years).
[b]PMN, postmenopausal women.
[c]TBAs, traditional birth attendants.

spotting. Virtually all of these conditions were, however, regarded by most participants as normal features of pregnancy.

Perceptions and Knowledge About Delivery, Obstetric Emergencies, and Maternal Mortality

Eighty percent of respondents knew at least one major cause of maternal mortality and 83.5% were aware that pregnancy could be associated with life-threatening emergencies. Among the respondents, the medical conditions most commonly known as associated with maternal deaths were anemia (37.6%), hemorrhage (23.1%), and obstructed labor (22.8%) (Table V). When required to specifically indicate the condition that they believed was the most common cause of maternal mortality in Ologbo community, approximately one-third (31.8%) of the respondents mentioned hemorrhage while 17.3% mentioned obstructed labor (Table V). However, a third of the respondents (34.5%) indicated that they had no knowledge as to the most common cause of maternal mortality in the community.

While the opinions obtained from the FGD sessions supported the findings from the questionnaire study, participants generally indicated that the occurrence of complications were generally rare. In the words of one of the health workers from the government health facility, *"We hardly see cases with complications here. Apart from one or two recent bleedings or retained placenta, the only major complication we saw here was a transverse lie with hand presentation about 3 years back."*

Private maternity centers were the preferred source of care (37.3%), followed by traditional birth attendants (25.5%), while only 15.7% indicated the government-owned clinic as their preferred source (Fig. 1). The most common reasons indicated for not preferring the government-owned PHC facility were the following: uncertainty about the availability of trained staff in the facility at the time when delivery may be taking place (31.4%); perception of poor quality of services (24.3%); and high costs of services (19.2%). However, 11.8% cited a number of other reasons such as the greater convenience of using other services and personal preferences, whereas

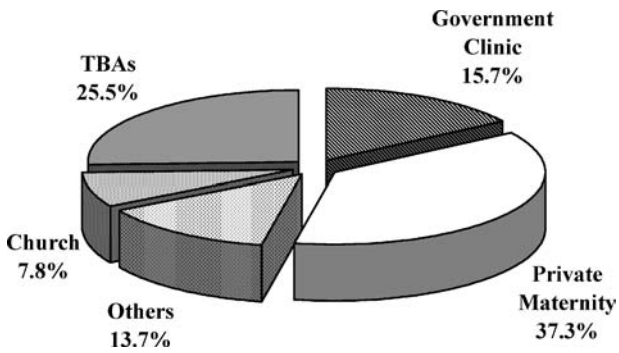

Fig. 1. Preferred place of delivery among the 225 respondents.

Table V. Mothers' Knowledge of Common Causes of Maternal Death and the Commonest Cause in Their Community, Ologbo, Nigeria, 1999

	Knowledge of *common* condition of maternal death in Ologbo ($n = 255$)		Knowledge of the *commonest* condition of maternal death in Ologbo ($N = 255$)	
Causes of maternal death	Frequency	%	Frequency	%
Hemorrhage	59	23.1	81	31.8
Obstructed labor	58	22.8	44	17.3
Puerperal infections	13	5.1	2	0.8
Eclampsia	13	5.1	13	5.1
Induced abortion	33	12.9	21	8.2
Anemia	34	37.6	6	2.4
Others	96	20.0	—	—
Do not know any of the above	51	25.0	88	34.5

16.1% did not indicate any specific reason (not shown in table).

Maternal Health Experiences and Care-Seeking Behavior in Childbirth

As Table VI shows, the sources of services differed for various pregnancy-related care received. Whereas the government-owned PHC center was the facility used most commonly for antenatal care (50%) and postnatal care (50%) services, this was not the case with delivery services. Among the 81 respondents that delivered in the last 1 year before the study, about half delivered in private maternity homes (49.4%), while 42.0% delivered with TBAs (Table VI). Whereas no association was found between age, marital status, and choice of place for delivery, educational level showed a statistically significant association ($p = 0.03$) (Table VII).

Thirty-seven of the total number of respondents (16.4%) indicated that they experienced complications in their last pregnancy: the commonest obstetric complications experienced were hemorrhage (62.2%), obstructed labor (18.9%), and sepsis (13.5%) (Fig. 2). The most common sources for definitive management of the major complications recorded, as indicated during the FGD sessions with both orthodox health workers and TBAs, were public secondary healthcare facilities and privately owned facilities located in Benin City. Referral also sometimes takes place from the TBAs to orthodox health practitioners as reflected in the following statement by a TBA during the FGD: "*Some women used to bleed after delivery. Some others have retained placenta or obstructed labor. We try to control it but will ask them to go to the government clinic or private maternity when we cannot handle it. They sometimes go to Benin City*." However, opinions from the FGD sessions also indicated that there was a considerable degree of strained relationship between TBAs and government health workers. Whereas staff of the government health facility indicated that they had not received the desired level of cooperation from the TBAs, many of the TBAs stated that government health workers were not friendly to them, and had shown little or no willingness in assisting or working in partnership with them.

With regards to family planning, only 29 respondents (11.4%) were using any birth spacing methods at the time of the study: oral contraceptive pill was the most common method (31.0% of acceptors), followed by injectables (24.1%) and periodic abstinence (24.1%) while lactational amenorrhea

Table VI. Pattern of Maternal Health Care Services Utilization by Respondents in Ologbo Community, Nigeria in 1999

Source of maternal health service	Antenatal care ($n = 81$)	Delivery ($n = 81$)	Postpartum care ($n = 81$)
Government clinic	9 (50.0%)	7 (8.6%)	2 (50.0%)
Private clinic	6 (37.5%)	40 (49.4%)	1 (25.0%)
Traditional birth attendants	2 (12.5%)	34 (42.0%)	1 (25.0%)
Total	17 (21.0%)	81 (100%)	4 (4.9%)

Table VII. Association Between Selected Sociodemographic Characteristics and Place of Delivery in Ologbo, Nigeria in 1999

	Government PHC center ($n = 7$)	Private maternity center ($n = 17$)	Traditional birth attendant ($n = 57$)	Total ($n = 81$)	P value
Age group					
25—34 years	5 (8.6%)	12 (20.7%)	41 (70.7%)	58	
35 years and above	2 (8.7%)	5 (21.7%)	16 (69.6%)	23	0.99
Education					
Less than secondary level	3 (5.8%)	7 (13.5%)	42 (80.8%)	52	
Secondary level or higher	4 (13.8%)	10 (34.5%)	15 (51.7%)	29	0.03
Marital status					
Never married	2 (9.5%)	7 (33.3%)	12 (57.1%)	21	
Ever married	5 (8.3%)	10 (16.7%)	45 (75.0%)	60	0.27

(17.2%) and rhythm methods (3.5%) were the least practiced methods (Table VIII). Most contraceptive users (51.7%) indicated the government-owned facility as their source of family planning methods, while 17.2% had private health facilities as their source, 20.7% indicated TBAs as their source.

Factors Associated with Choice of Sources of Healthcare

The FGD sessions identified several factors (Table IX) associated with care-seeking behavior. Perception as regards the etiology of pregnancy-related problems was a major factor identified as FGD participants indicated that there were two broad groups of health problems: those that were "traditional" or "spiritual" in origin and those viewed as "physical," "normal," or "natural." The distinction between the two classes was that "traditional" or "spiritual" conditions were perceived as due to witchcraft and other supernatural causes, and such were believed to be best handled by traditional healers and spiritualists. Conditions classed in such groups, depending on different group of participants, included threatened abortion, recurrent abortions, and convulsive episodes. On the other hand, "physical" illnesses were those believed to have natural or physical causes, and which orthodox medicine can, therefore, detect and treat.

The preference of pregnant women for TBAs and the private maternity was also influenced by quality of care from the perspective of the service providers' behavior. Both the TBAs and the private midwives were considered by FGD participants to be more affectionate and caring compared to the staff of the government facility, and waiting time was also considered to be longer in the government facility compared to other alternate sources of care. The degree to which clients felt comfortable with the procedure being carried out by the service providers or the protocols that were anticipated could be used also contributed to decisions as to where to seek maternal healthcare services. For example, the fear of operations was cited as a factor that may make women decide to seek care from a TBA rather than trained health professionals as reflected in the following sentence: *"Some women whose babies are lying in the wrong way at delivery come to me (a TBA) because*

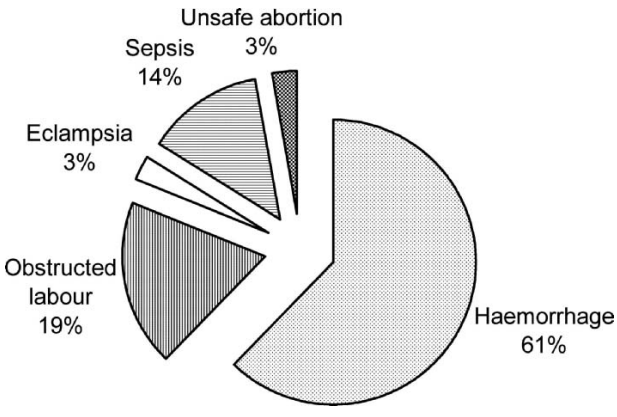

Fig. 2. Pattern of complications experienced by respondents in Ologbo community in their last pregnancy.

Table VIII. Distribution of Family Planning Acceptors by Type of Contraceptive Method in Ologbo Community in 1999

Type of contraceptive method	Number of family planning acceptors	Acceptors (%)
Injectables	7	24.1
Pills	9	31.0
Rhythm	1	3.5
Abstinence	7	24.1
Prolonged breastfeeding	5	17.2
Total	29	100.0

Table IX. Factors Affecting Choice of Health care Source as Indicated in the Ologbo Community by FGD Participants

	Community women			Health workers		
	Teenage females	WRA[a] (parity≤4)	WRA[a] (parity>4)	PMN[b]	TBAs[c]	Orthodox health workers
Nature of health problem	+++	+++	+++	+++	+++	+
Attitude of health workers	+++	+++	+++	+++	+++	++
Type of procedure	++	++	+	+	++	++
Availability/ accessibility of health worker	+++	+++	++	++	++	+
Cost of service	++	+	++	+	+	+
Opinion of men	+++	++	+	+++		+
Opinion of other relations	++	++	++	++	++	+

Note. +++, indicated as very important; ++, indicated as important; +, indicated as having some contributions; −, not mentioned.

[a]WRA, women of reproductive age (20–49 years).

[b]PMN, postmenopausal women.

[c]TBAs, traditional birth attendants.

they fear being told to go to Benin City for operation. When they come, I turn the baby in the right direction and they deliver safely."

The fact that the TBAs also allowed the women more liberty with regards to birthing position was also cited as a factor in decision-making. There were differences of opinion as to the degree to which the husbands actually influence the choice of the place to deliver, although it was generally agreed that the man could make a ruling or decision on such an issue within his household if he wanted to, and his "words" would constitute the final authority.

DISCUSSION

Our findings showed a high rate of teenage pregnancy and high level of childbearing, which is in line with the general fertility pattern in the South–south region of Nigeria where a teenage pregnancy rate of 14.3% and an average of 6.9 children per woman (age 40–49 years) have been reported (9). The high number of children per woman recorded in Ologbo suggests that a high proportion of deliveries in the community must have been of high-risk nature—pregnancies before the age of 18 years, pregnancies after 40 years, and pregnancies with birth interval of less than 2 years—and this pattern is believed to be associated with the high maternal mortality situation in Nigeria (10).

The high level of awareness among the respondents (83.5%) of the possibility of life-threatening conditions occurring in pregnancy has obviously not affected their fertility and reproductive behavior. This, in itself, is not surprising given the environment in which the respondents live and the cultural milieu in which they have been operating. High fertility, traditionally, is a cherished characteristic in many Nigerian communities, and in most of the ethnic groups that coexist in Ologbo the woman's status within the community is directly related to the number of children she has (11).

The leading role of hemorrhage in maternal mortality as noted in our study has been documented in other community-based studies conducted in Edo state by Okolocha and colleagues (12), Chiwuzie *et al.* (13), and Asowa-Omorodion (14). As Chiwuzie and colleagues (13) noted, however, despite a high degree of general knowledge about the dangers of hemorrhage in pregnancy-related states, real knowledge may be lacking regarding the warning signs and risk factors of hemorrhage during pregnancy, delivery, and the postdelivery period. Hospital-based studies carried out in Edo state (15, 16) as well as in other areas in the southern parts of Nigeria (17–19) and nationally (20), over the years, have also consistently shown hemorrhage as the leading medical cause of maternal mortality. The same is true at the global level, where hemorrhage has been associated with 34% of maternal deaths (5). Studies in developing countries have shown that where maternal mortality is relatively high, the excess is likely to be due to hemorrhage (21).

The high level of maternal deaths from ruptured uteri reported from many Nigerian studies (18, 19, 22, 23) could likely have been associated with obstructed labor, which respondents ranked as the second most common cause of maternal mortality in their

community. The occurrence of obstructed labor is likely to be high in rural areas like Ologbo, as associated factors such as early marriage and teenage pregnancy are higher in such geographical locations (9). Chronic childhood malnutrition is known to negatively affect the development of the pelvic bones and later obstetric performance in adulthood, and in the face of increasing poverty in Nigeria, which disproportionately affects rural areas (24), the incidence of obstructed labor may be high in places like Ologbo.

This study showed a pattern of poor maternal health-seeking behavior. Among others, there was a high preference for traditional birth attendants (TBAs), who lack skills to respond to emergency obstetrical conditions. Various reasons given by our respondents with respect to their preference for delivering with TBAs, including greater accessibility, better interpersonal relationship, lower cost, greater convenience, and freedom to use traditional birthing position have also been documented in other studies (20, 25). The low level of utilization of postnatal services, and poor acceptance of modern family methods were other indicators of poor reproductive health behaviors, and represent some of the greatest challenges to reducing the high level of maternal mortality in Nigeria (10).

Perception and knowledge of the community members about maternal health problems played a role in their care-seeking behavior. Whereas local beliefs such as those that view threatened abortion as being associated with witchcraft and other supernatural causes were obtained, ignorance about warning signs in pregnancy was also recorded with some bleeding episodes and swollen feet indicated by some respondents as being normal in pregnancy. As Okafor and Rizzzuto (26) noted, such mistaken opinions and folklore were likely to result in delay in seeking medical attention on time. In particular, when spiritual factors were deemed to be responsible for a particular problem, community and family members often see such conditions as those that could not be handled by orthodox medical practitioners. In general, people perceived to be suffering from spiritual-attributable conditions in Nigeria are taken to traditional healers and TBAs, rather than orthodox health facilities (27,28). Unfortunately, little cooperation and collaboration exist between TBAs/traditional healers and orthodox health workers in Ologbo—which is the typical scenario in many parts of Nigeria.

The issue of cost as playing a role in poor service utilization in Nigerian communities has been reported by Adetoro *et al.* (29): prohibitive cost of orthodox health services was reported as preventing community members from fully utilizing those services. In the case of Ologbo community, the official cost of the services was high compared to what many of the people in the community could afford, given their socioeconomic level. However, as Thaddeus and Maine noted from their review of the literature, while cost might constitute a reason for delay in seeking healthcare, people lay a higher premium on quality issues (30). The opinion of some FGD participants that they would seek the money to pay for the services of the government facility provided that the quality of service improves buttressed this point. Provider-related factors such as their availability on a regular basis and interpersonal relationships with clients were recorded as some of the factors influencing care-seeking behavior. Apparently, the women of Ologbo were using the government-owned center mainly in situations where the facility was the main or only source (such as immunization) or where the service demanded had little or no potential of being an emergency and could be received conveniently during daytime hours (such as contraceptives).

This study showed that the existence of a health facility with large numbers of trained health professionals is not sufficient in itself. Rather, efforts to improve the maternal health status of Nigerian women, particularly in rural areas, would entail examining and understanding the sociological context of health behavior within the communities as well as analyzing issues relating to service delivery. Obviously, improving the maternal health situation in Nigerian communities would require action on several fronts, including education of the women and their households, improving the quality of services, improving the human resources situation for health service delivery, as well as ensuring that the policies of healthcare institutions and practices within them are sufficiently friendly to the women. Deliberate efforts must be made to ensure that the costs of maternal health services are within the reach of the rural population and the low socioeconomic groups.

REFERENCES

1. United Nations. *Millennium Declaration. 2000*. A/RES/55/2. September 18, New York. http://www.un.org/millennium/declaration/are5552e.pdf. Accessed March 30, 2003.
2. World Health Organization. *Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF, and UNFPA*. Geneva: World Health Organization, 2004.

3. National Population Commission. *1991 Population Census of the Federal Republic of Nigeria. Analytical Report at the National Level*. Abuja, Nigeria: National Population Commission, 1998.
4. Federal Office of Statistics (FOS) and United Nations Children Fund (UNICEF). *Multiple Cluster Indicator Survey 1999*. Lagos, Nigeria: FOS and UNICEF, 2000.
5. World Health Organization. *Reduction of Maternal Mortality: A Joint WHO/UNFPA/UNICEF/World Bank Statement*. Geneva: World Health Organization, 1999.
6. Wagstaff A. Poverty and health sector inequalities. *Bull World Health Organ* 2002;80:99–105.
7. Federal Ministry of Health. *Studies in Reproductive Health in Nigeria: A Book of Abstracts and Author (1980–1998)*. Lagos, Nigeria: Department of Community Development and Population Activities, Federal Ministry of Health and UNFPA (Nigeria), 1998.
8. Health Department, Oredo Local Government Area and National Population Commission. *Projected Population Figures*. Benin City, Benin: Oredo Local Government and National Population Commission, 1998.
9. National Population Commission (Nigeria). *Nigeria Demographic and Health Survey 2003*. Abuja (and Calverton), Nigeria: National Population Commission, Federal Republic of Nigeria and MEASURE DHS+ ORC Macro, 2004.
10. Fatusi AO. *Maternal Mortality Situation and Determinants in Nigeria. A review commissioned by the Federal Ministry of Health*. Abuja, Nigeria: Federal Ministry of Health, 2004.
11. Okonofua F. Infertility and women's reproductive health in Africa. *Afr J Reprod Health* 1999;3:7–9.
12. Okolocha C, Chiwuzie J, Braimoh S, Unuigbe J, Olumeko P. Sociocultural factors in maternal morbidity and mortality: A study of a semiurban community in Southern Nigeria. *J Epidemiol Community Health* 1998;52:293–7.
13. Chiwuzie J, Okolocha C, Okojie O, Ande T, Onoguwe B. Sociocultural aspects of hemorrhage in pregnancy. *World Health Forum* 1997;18:185–8.
14. Asowa-Omorodion FI. Women's perception of the complications of pregnancy and childbirth in two Esan communities, Edo State, Nigeria. *Soc Sci Med* 1997;44:1817–24.
15. Unuigbe JA, Orhue AA, Orisaye AU. Maternal mortality at the University of Benin Teaching Hospital, Benin City, Nigeria. *Trop J Obstet Gynecol* 1998;27:13–8.
16. Okonta PI, Okali UK, Otoide VO, Twomey D. Exploring the causes of and risk factors for maternal deaths in a rural Nigerian referral hospital. *J Obstet Gynecol* 2002;22:626–9.
17. Ayangade SO. Maternal mortality in a semiurban Nigerian community. *J Natl Med Assoc* 1981;73:137–40.
18. Ogunniyi SO, Faleyimu BL. Trends in maternal deaths in Ilesa, Nigeria. 1977–1988. *West Afr J Med* 1991;10:400–4.
19. Chukwudebelu WO, Ozumba BC. Maternal mortality in Anambra state of Nigeria. *Int J Gynecol Obstet* 1998;27:365–70.
20. Fatusi AO, Ijadunola KT. *National Study on Essential Obstetric Care Facilities in Nigeria*. Abuja, Nigeria: Federal Ministry of Health. 2003.
21. Duley L. Maternal mortality associated with hypertensive disorders of pregnancy in Africa, Asia, Latin America, and the Caribbean. *Br J Obstet* 1992;99:547–53.
22. Briggs ND. Maternal death in the booked and unbooked patients: University of Port-Harcourt Teaching Hospital experience. *Trop J Obstet Gynecol* 1988;1:26–29.
23. Adamu YM, Salimu HM, Sathiakumar N, Alexander GR. Maternal mortality in Northern Nigeria: A population-based study. *Eur J Obstet Gynecol Reprod Biol* 2003;109:153–9.
24. Federal Office of Statistics. *Draft Poverty Profile for Nigeria*. Lagos, Nigeria: Federal Office of Statistics, 2005.
25. Fatusi AO, Abioye-Kuteyi EA. Defining the traditional birth attendants: What we know about TBAs in Nigeria. In: *Defining the Future Role of Traditional Birth Attendants in Reproductive Healthcare in Nigeria*. Benin, Nigeria: Women Health and Action Research Center, 1998.
26. Federal Ministry of Health and Society for Family Health. *National HIV/AIDS and Reproductive Health Survey*. Abuja, Nigeria: Federal Ministry of Health and Society for Family Health, 2003.
27. Okafor CB, Rizzuto RR. Women's and healthcare providers' view of maternal practices and services in rural Nigeria. *Stud Fam Plann* 1994;25:353–61.
28. Fatusi AO. Health-seeking behavior of nigerians, audience research and existing communication strategies with respect to selected health conditions: A review. Report prepared for partnership for transforming health systems (PATHS), Abuja, Nigeria, 2004.
29. Mensch BS, Arends-Kuenning M, Jain A, Garate MR. Avoiding unintended pregnancy in Peru: Does the quality of family planning matter? *Int Fam Plann Perspect* 1997;23(1):21–7.
30. Thaddeus S, Maine D. Too far to walk: Maternal mortality in context. *Soc Sci Med* 1994;38:1091–110.