

New Paradigm, Old Thinking: The Case for Emergency Obstetric Care in the Prevention of Maternal Mortality in Nigeria

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Abstract

Objectives: This study assessed maternity unit operatives' knowledge of the concept of emergency obstetric care (EmOC) and investigated the contents of antenatal care (ANC) counseling services delivered to clients. It also described the operatives' preferred strategies and practices for promoting safe motherhood and averting maternal mortality in South-west Nigeria.

Methods: The study population included all the 152 health workers (doctors, midwives, nurses and community health extension workers) employed in the maternity units of all the public health facilities (n=22) offering maternity care in five cities of 2 states. Data were collected with the aid of a self-administered, semi-structured questionnaire and non-participant observation checklist. Results were presented using descriptive statistics.

Results: Ninety one percent of the maternity unit staff had poor knowledge concerning the concept of (EmOC). While consistently more than 60% of staff reported having included client-centered messages in the (ANC) delivered to clients, results of structured observations by the investigators were contrary to this. Concerning strategies for averting maternal deaths, 70% of respondents still preferred the strengthening of routine ANC services in the health facilities to the provision of access to EmOC services for all pregnant women who need it.

Conclusions: We concluded that maternity unit operatives at the primary and secondary care levels in South-west Nigeria were poorly knowledgeable about the concept of emergency obstetric care services and they still preferred the strengthening of routine antenatal care services based on the risk approach for promoting safe motherhood despite a global current shift in paradigm. There is an urgent need to reorientate the staff in line with global best practices.

Key Words: Emergency Obstetric Care; Safe Motherhood; Maternity Staff; Knowledge; Practices; Nigeria

Introduction

An estimated 500,000 or more women still die each year from complications of pregnancy and childbirth (1). Some 99% of these deaths occur in the developing countries, where a woman's lifetime risk of dying from pregnancy and related complications is almost 40 times greater than that of her counterparts in developed countries (2). By all accounts, progress in reducing maternal mortality has been very slow in developing countries. The vast majority of maternal deaths are due to direct obstetrical complications, including haemorrhage, infection, eclampsia, obstructed labour and unsafe abortion. Twenty years ago, a global Safe Motherhood Initiative was launched to reduce the burden of maternal mortality, especially in developing countries. The initiative at inception, unfortunately, took a few strategic missteps (3). Emphasis was unduly placed on antenatal care (ANC), including the screening for risk factors, and the training of traditional birth attendants (TBAs) to use safe, hygienic practices. It has since been found out that neither approach had any significant effects on the burden of maternal mortality, as majority of obstetric complications tend to occur in women categorized as low risk, and TBAs can by themselves do very little to save women's lives during serious obstetric complications (3). Today, strategies are more appropriately focused. It is essential that pregnant women in whom complications develop have access to the medical interventions of emergency obstetric care (EmOC) to ensure favourable maternal and foetal outcomes. Programmes to make such care more widely available include upgrading the infrastructure of community health centers and referral hospitals, and providing necessary and essential drugs, supplies and equipment for the timely delivery of services at all hours. In addition, staff with the appropriate obstetric training and skills in sufficient numbers should be deployed to facilities that offer maternity services. The referral systems between communities and health facilities also need to be strengthened.

The Nigerian National Reproductive Health Policy of 2001 (4) targeted a 50% reduction in maternal mortality between 2001 and 2006, a 50% increase in access to safe blood transfusion services, EmOC for women of reproductive age and reproductive health information and services. Nigeria is also a signatory to the Millennium Development Goals (MGDs) of the United Nations (5) member countries, goal 5 of which targets the

reduction of maternal mortality by 75% between 1990 and 2015, and the African Roadmap for the accelerated achievement of this goal (6). The country is however not on track towards the realization of this goal. Recent estimates of the maternal mortality burden by the Federal Ministry of Health (2) puts the maternal mortality ratio at an unacceptably high figure of 800/100,000 live births, even by a developing African country's standard. While innovative programmes are ongoing in a number of states and local government areas with the support of UN agencies, bilateral donors, Non-Governmental Organizations and the private sector, there is no concomitant political will on the part of political leaders who control state and local resources, especially with regards to the placement and retention of skilled staff in health facilities (7). It is therefore difficult to translate globally proven and effective remedies and technologies into action. The knowledge base of staff in the health facilities and those of the policy makers at the state and local government levels with regard to the paradigm shift, from the Antenatal Risk Assessment approach and promotion of TBA-assisted delivery to the provision of access to EmOC services and delivery under 'skilled birth attendants' for all pregnant women is questionable. To this end, this study was conducted to examine the awareness of maternity unit operatives in public hospitals in five cities of Southwest Nigeria about the change in paradigm and also assess how much of the paradigm shift they adopt in their obstetric practice. In addition, the study assessed the maternity unit operatives' knowledge of the concept of EmOC, examined the contents of ANC counseling services delivered to clients and described their preferred strategies and practices for promoting safe motherhood and preventing maternal mortality among obstetric clients.

Subjects and Methods

Study location

The study was carried out in Osun and Ekiti States of Southwest Nigeria. The study site in Osun State was Ile-Ife (incorporating Ife Central and Ife East Local Government Areas) while four towns in Ekiti State (Ado, Ijero, Ikole and Ikere Ekiti) were selected for study. Data were collected from all the primary and secondary public health facilities

that offer obstetric care services. In all, a total of 22 facilities were included, comprising five secondary care hospitals and 17 health centers (both primary and comprehensive).

Study design

The study employed a descriptive design, exploring the perceptions, knowledge and practices of the operatives of maternity units about various issues pertaining to Safe Motherhood.

Study population

This consisted of all 152 health workers (doctors, midwives, nurses and community health extension workers (CHEWs)) employed in the maternity units of all the health facilities.

Data collection techniques

These consisted of a self-administered, semi-structured questionnaire was applied to the staff while at work and non-participant observation of staff at ANC sessions using a checklist. The questionnaire was divided into 2 sections – one on the bio-data of the respondents and the other on their knowledge, perceptions and practices regarding EmOC and Safe Motherhood. Knowledge questions required respondents to list the components of Safe Motherhood and Emergency Obstetric Care signal functions, comment on the effectiveness of ANC in predicting and preventing pregnancy-related complications and death, and list the important elements of client-centered ANC for effective maternal mortality reduction. Furthermore, respondents were asked of their awareness of the Lifesaving Skills (LSS) training scheme and were required to mention some of the competencies that the LSS training may help impart, among other questions.

Data analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) software, version 11. Descriptive statistics were used to summarize the data and were presented using frequency tables and percentages. To assess the respondents' knowledge of EmOC, relevant questions had weights attached to them to create a composite score of

knowledge. Maximum score obtainable was 14 points. Interpretation of scores was based on the Nigerian university education scoring system. Respondents whose scores translated into 70% or more were classified as having excellent knowledge of EmOC; those who scored between 50% and 69% were classified to have good knowledge; those who scored between 45% and 49% were classified to have fair knowledge while those whose scores were below 45% were classified as having poor knowledge.

Results

Sample demographics

One hundred and fifty two respondents consisting of 21 doctors (13.8%), 57 nurses/midwives (37.5%) and 74 CHEWs (48.7%) participated in the study. One hundred and seventeen (77%) of the respondents were females, as a majority of the respondents were either Community Health Extension Workers (CHEWs) or nurses, both of which are female dominated professions in Nigeria, while 35 (23%) were males. The mean age (SD) of the respondents was 36.2 (2.2) years with a modal age range of 30-39 years.

Knowledge of EmOC

The general knowledge of the respondents concerning the concept of EmOC was poor (Table 1). No respondent had an excellent knowledge of the issues; only one respondent (0.7%), a doctor, had good knowledge, 13 people (8.5%), also mostly doctors, had a fair knowledge, while about 91% had poor knowledge. The contents of the ANC counseling services delivered by the respondents to their clients are presented in table 2. A significant proportion of the respondents reported that they included facts that can make the outcome of pregnancy safer in their ANC talks. About 63% reported that they counsel clients that all pregnancies may be at risk of developing complications; 71% reported counseling clients that the occurrence of maternal complications may not be accurately predicted in individual women. Similarly, about 63% of the respondents reported that they counsel clients on birth preparedness, 75% on warning and danger signs of pregnancy and delivery and 83% on post-partum family planning. However, only 40% of the respondents, more doctors than the other health workers, reported counseling clients on complication readiness. Generally, the doctors and nurse/midwives fared better than

the CHEWs on the contents of ANC counseling services. Results of the non-participant observations, however, did not confirm many of these responses as significantly less proportions of staff counseled clients on the variety of items listed in table 2; counseling sessions tended to be more general than being item-specific.

Delivery room practices

The delivery room practices of the respondents are presented in table 3. Only about 41%, more doctors than the other health workers, routinely use the partograph in monitoring the progress of labour. While slightly more than half (52.6%) of the respondents would permit a woman's spouse or partner in the delivery room, only 18% of them would permit one or more relations apart from the husband, even on the request of the client. Surprisingly, less than half of the respondents reported the use of obstetric protocols to aid decision making in the labour ward, and this was less so for the nurse/midwives and the CHEWs compared with the doctors. This was despite the fact that less than 10% of the respondents had received any training in Life Saving Skills (LSS), table 4. The awareness of LSS training was quite poor among the respondents as only 29% of them were aware of the scheme, and the bulk of these were doctors (Table 4). It was therefore not surprising that a majority (93%) of the respondents had poor knowledge of the competencies acquired through the LSS training. Similarly, a majority of the respondents had never attended any competency based training programme in the area of safe motherhood since their graduation from basic training (Table 4). Most of the respondents, however, displayed great zeal and enthusiasm to get trained and be updated on current issues with regards to safe motherhood and maternal mortality reduction interventions, even if they would have to co-fund such training with their employers (results not shown). The consensus opinion among respondents, however, was that their employers were not interested in funding their attendance at updates and workshops.

Preferred Strategies for averting maternal deaths

Concerning strategies for averting maternal deaths (Table 5), 70% of respondents would prefer the strengthening of routine ANC services in the health facilities to the provision of access to EmOC services for all pregnant women who need it. This view was stronger

among the nurse/midwives and CHEWs compared with the doctors. The EmOC strategy was preferred by only 21% of respondents while just 6% of them reported the improvement in referral and other support services as their preferred strategy for averting maternal deaths. Within the three months preceding the survey, almost 62% of the respondents reported that they had not provided any emergency obstetric care services to clients (Table 6). About 22% reported that they had partaken in the delivery of basic emergency obstetric care services while about 16% reported offering comprehensive emergency obstetric care services to clients during the same period, and a majority of these were doctors and included no CHEWs. About 82% of the respondents however reported providing post-partum family planning services during this period.

Discussion

The unpredictability of obstetric complications resulting in maternal deaths means that good quality treatment/care services need to be available not just in centralized referral hospitals, but at facilities within easy reach of all women. The continuing burden of maternal mortality, especially in developing countries has also prompted a shift in paradigm from the traditional risk assessment approach of attempting to predict and prevent maternal deaths and complications to the provision of access to emergency obstetric care services for all women who are pregnant, (and might thus experience complications) and the treatment of such complications (8). The basic requirements for provision of emergency obstetric functions have been delineated and the essential elements of obstetric care at the first referral level have been documented (9). New training needs for maternity care providers at hospitals and peripheral level facilities have also been recognized, and a number of initiatives attempting to meet those needs (10), especially in resource-constrained settings, have been similarly proposed. While the audience for training varies from project to project, “skilled birth attendants” as defined by the World Health Organization is often identified as the appropriate focus for training (11). We now know enough about what works to implement preventive community-based strategies to improve maternal and newborn health by 2015. The crucial issue is whether political will and the policy framework for implementing these interventions at the needed scale exist where they are most needed.

In resource-poor settings, life-threatening obstetric complications still often go unidentified and pregnancy complications are frequently not properly managed by health services. The requirements, considered to be the minimum in the provision of care at the district or sub-district hospitals or health centers, are also seriously deficient in many countries, Nigeria inclusive, where these qualities sometimes do not even exist at the teaching hospital level (8). In this study, it was obvious that the maternity unit operatives lacked the necessary post-basic training to equip them for the effective delivery of safe motherhood services in the face of the current paradigm shift. Schemes such as the LSS training were strange to many of them and their knowledge of what constitutes emergency obstetric care services, LSS competencies and major safe motherhood interventions was therefore unsurprisingly poor. Even though they reported incorporating the contents of client-centered ANC services into their ANC counseling sessions, non-participant observations by the investigators did not confirm this. The staff probably wanted to identify with global best practices as depicted in the research instrument but were still being constrained by a number of factors that may include technical incompetence as well as policy and administrative bottlenecks. This finding further gave credence to the use of structured observations in this study as against the sole use of the questionnaire survey which might have introduced a social desirability bias about the reported practices of the respondents.

While the respondents were enthusiastic about post-basic training and were even willing to partly fund their attendance at such trainings, they were probably often constrained by the disposition of their employers who were reported not to be passionate about funding the attendance of staff at updates and workshops. The employers (officials of the health departments of the states and LGAs) routinely reiterate the unacceptably high maternal mortality burden of the country and the official commitment of the state to several of the international policy documents targeting the reversal of the trend including the millennium declaration of the United Nations. They however fail to make improved maternal health a political priority and deploy the necessary resources to meet targets⁷. The excuse often advanced is that it is expensive to employ skilled staff to man health

facilities (in the face of scarce state/LGA resources) (7). This was also probably why a majority of the respondents (CHEWs) in this study who manned maternity units in primary level public health facilities in the study area were “unskilled birth attendants” by international standards. This category of health workers, by design, have little or no basic training in obstetric care and are supposed to spend part of their working day in the community and part in the health facilities attending to minor ailments and injuries (12). They have however become the “de facto” health workers in primary health facilities in Nigeria, including maternity units. This situation has grave implications for the fight against maternal mortality in the country as the workers in whose care the health of women and mothers are committed are not “skilled”.

The delivery room practices of the respondents were to a large extent a reflection of their level of training (both basic and post-basic). A majority of them will not allow the relations of pregnant women into the labour ward to support them in labour. Similarly, operatives (especially the non-physicians) neither used the partograph to monitor labour nor used obstetric protocols to aid decision making. This has implications for utilization of obstetric services by women and their families as the tendency of the clients is to prefer services that respect their wishes to have relations in attendance at deliveries and those that give them some attention and a semblance of intensive care. Regrettably for the formal health system in Nigeria, the TBAs and the faith-based providers of care incorporate such “humane” principles into their package of care, and are therefore more endeared to the women and their families, despite their limited technical skills and competences. It was further observed that the preferred strategy for improved maternal outcomes by a majority of the maternity unit operatives in this study was the strengthening of routine ANC services ahead of “access to EmOC services by all women that need them” and “improved referral services”. Besides, EmOC functions were not routinely performed by the health workers. It could therefore be inferred that these operatives still believed in the teaching of “if we take care of pregnant women very well during ANC and identify those at risk, they will be well”. However, current research evidence is not in support of this position and best practices suggest that we classify every pregnant woman as being at risk of possible obstetric complications and death (8,

13-14) and should therefore be given access to EmOC services based on need. These operatives will need a total reorientation if they must embrace the paradigm shift and adopt best global practices for improved maternal outcomes.

We concluded that maternity unit operatives at the level of primary and secondary care in south-west Nigeria were poorly knowledgeable about the concept of emergency obstetric care services and still preferred the strengthening of routine antenatal care services based on the risk approach for promoting safe motherhood and reducing maternal mortality despite a current shift in paradigm that is globally acceptable. There is an urgent need to make improved maternal health a political and policy priority in Nigeria so that health workers of the right number, mix and training/orientation can be employed and deployed to man maternity units at the various levels of care. Advocacy efforts of women's groups, community organizations and the mass media are urgently needed in this direction.

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Table 1. Maternity unit workers' knowledge of the concept of Emergency Obstetric Care

Level of Knowledge	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
Good	1 (4.8)	0 (0)	0 (0)	1 (0.7)
Fair	9 (42.8)	3 (5.3)	1 (1.4)	13 (8.5)
Poor	11 (52.4)	54 (94.7)	73 (98.6)	138 (90.8)
Total	21 (100)	57 (100)	74 (100)	152 (100)

*CHEWs = Community Health Extension Workers

Table 2. Reported contents of antenatal care (ANC) counseling services delivered by maternity unit workers to their clients.

Contents of ANC counseling	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
All pregnant women are at risk of maternal complications	16 (76.2)	50 (87.7)	29 (39.2)	95 (62.5)
Incidence of maternal complications may not be accurately predicted in individual women	13 (61.9)	40 (70.2)	55 (74.3)	108 (71.1)
Maternal complications, though unpredictable are treatable	17 (81.0)	48 (84.2)	50 (67.6)	115 (75.7)
Birth preparedness	13 (61.9)	47 (82.5)	35 (47.3)	95 (62.5)
“Warning/danger” signs of pregnancy and delivery	17 (81.0)	51 (89.5)	46 (62.2)	114 (75.0)
Postpartum family planning	19 (90.5)	50 (87.7)	57 (79.0)	126 (82.9)
Complication readiness	15 (71.4)	20 (35.1)	6 (8.1)	61 (40.1)

*CHEWs = Community Health Extension Workers

Table 3. Delivery room practices of maternity workers

Deliver Room Practices	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
Would admit husband into the delivery room	12 (57.1)	34 (59.6)	34 (45.9)	80 (52.6)
Would admit one or more relations apart from the husband	6 (28.6)	13 (22.8)	8 (10.8)	27 (17.8)
Use the partograph in monitoring labour	18 (87.5)	35 (61.4)	9 (12.2)	62 (40.8)
Refer to obstetric protocols in the labour ward	11 (52.4)	27 (47.4)	27 (36.5)	65 (42.8)

*CHEWs = Community Health Extension Workers

Table 4. Maternity unit workers exposure to skills acquisition toward ensuring “safe motherhood”

Exposure to Safe Motherhood Skills	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
Awareness of *LSS training	18 (85.7)	22 (38.6)	4 (5.4)	44 (28.9)
Knowledge of competencies acquired from LSS training				
- Good	6 (28.6)	1 (1.7)	0 (0)	7 (4.6)
-Poor	14 (66.7)	54 (94.7)	74 (100)	142 (93.4)
Number trained in LSS	7 (33.3)	6 (10.5)	1 (1.3)	14 (9.2)
Attendance at other training for upgrading of skills in safe motherhood				
-Never	16 (76.2)	51 (89.5)	65 (87.8)	132 (86.8)
- In the last 1 year	1 (4.8)	2 (3.5)	3 (4.05)	6 (3.9)
- In the last 2-5 years	4 (19.0)	4 (7.0)	6 (8.11)	14 (9.2)

*CHEWs = Community Health Extension Workers

**LSS = Lifesaving skills

Table 5. Maternity unit workers' preferred strategies for averting maternal mortality

Reported Preferred Strategies	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
Strengthening routine ANC services	10 (47.6)	43 (75.4)	54 (73)	107 (70.4)
Improved referral and other support services	1 (4.8)	0 (0)	8 (10.8)	9 (5.9)
Access to **EmOC for all pregnant women	9 (42.9)	13 (22.8)	10 (13.5)	32 (21.1)

*CHEWs = Community Health Extension Workers

**EmOC = Emergency Obstetric Care

Table 6. Maternity unit workers provision of “Safe Motherhood” services in the 3 months preceding the study

Safe Motherhood Services Offered	Doctors (n= 21) Freq (%)	Nurses (n=57) Freq (%)	*CHEWs (n=74) Freq (%)	Total (n=152) Freq (%)
No EmoC	3 (14.3)	32 (56.2)	59 (79.7)	94 (61.8)
Basic EmOC	2 (9.5)	17 (29.8)	15 (20.3)	34 (22.4)
Comprehensive *EmOC	16 (76.2)	8 (14.0)	0 (0)	24 (15.8)
Post-abortal Care	18 (85.7)	31 (54.4)	1 (1.4)	50 (32.9)
Postpartum Family Planning	20 (95.2)	42 (73.7)	62 (83.8)	124 (81.6)

*CHEWs = Community Health Extension Workers

**EmOC = Emergency Obstetric Care