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Citation for final published version:

Esienumoh, Ekpoanwan E., Allotey, Janette and Waterman, Heather 2018. Empowering members of a rural southern community in Nigeria to plan to take action to prevent maternal mortality: a participatory action research project. *Journal of Clinical Nursing* 27 (7-8) , e1600-e1611. 10.1111/jocn.14244

Publishers page: <http://dx.doi.org/10.1111/jocn.14244>

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# **Empowering members of a rural south-eastern community in Nigeria to plan to take action to prevent maternal mortality: A participatory action research project (Part One)**

## **Abstract**

**Aims and objectives.** To facilitate the empowerment of members of a rural community to plan to take action to prevent maternal mortality.

**Background.** Globally, about 300,000 maternal deaths occur yearly. Sub-Saharan Africa and Southern Asia regions account for almost all the deaths. Within those regions, India and Nigeria account for over a third of the global maternal deaths. Problem of maternal mortality in Nigeria is multifaceted. About 80% of maternal deaths are avoidable, given strategies which include skilled attendants, emergency obstetric care and community mobilization. In Part One of this article presented here, a strategy of community empowerment to plan to take action to prevent maternal mortality is discussed. Part Two examines evaluation of the actions planned in Part One.

**Design.** Participatory action research was utilized.

**Methods.** Volunteers were recruited as co-researchers into the study through purposive and snowball sampling. Following orientation workshop, participatory data collection was undertaken qualitatively with consequent thematic analysis which formed basis of the plan of action.

**Results.** Community members attributed maternal morbidities and deaths to superstitious causes, delayed referrals by traditional birth attendants, poor transportation and poor resourcing of health facilities. Following critical reflection, actions were planned to empower the people to prevent maternal deaths through: community education and

advocacy meetings with stakeholders to improve health and transportation infrastructures; training of existing traditional birth attendants in the interim and initiating their collaboration with skilled birth attendants.

**Conclusion.** The community is a resource which if mobilized through the process of participatory action research, can be empowered to plan to take action in collaboration with skilled birth attendants to prevent maternal mortality.

**Relevance to clinical practice.** Interventions to prevent maternal deaths should include community empowerment to have better understanding of their circumstances as well as their collaboration with health professionals.

**Key words:** sub-Saharan Africa, maternal deaths, childbirth, participatory action research, community empowerment

## **Introduction**

Globally, there is an estimated total of 302,000 maternal deaths every year. Out of this number, developing countries account for 99% of the deaths. About 201,000 (66%) of the global maternal deaths occur in the sub-Saharan African region while 66,000 (22%) occur in Southern Asia (WHO et al. 2015). For every woman that dies, twenty others suffer ill health and disability as a result of these complications (Sibley et al. 2008;United Nations 2007c).

The health of the neonate is closely related to that of the mother and an estimated 70% of deaths of the newborn within the first month of life could also be prevented, were interventions in place for good maternal health (United Nations 2007a;Royal College of Obstetricians and Gynaecologists 2007). It is worth noting that in about 15% of all pregnant

women, complications will be unexpected and life-threatening unless they have access to emergency obstetric care (Royal College of Obstetricians and Gynaecologists 2007).

It has been observed that most maternal deaths are avoidable, given the right strategies including skilled attendants, Emergency Obstetric Care and community mobilization (De Brouwere 2002;United Nations 2007b). Skilled birth attendants, are people such as midwives, doctors and nurses who have been trained to proficiency and are limited in localities where maternal death is a major problem (United Nations 2007a). Less than 50% of births in low-income countries are attended by skilled birth attendants (WHO 2013). This figure is much lower than the global target which states that at least 90% of births should be attended by a skilled birth attendant by 2015 (United Nations 1999). Regardless, some pregnant women in Nigeria and other resource-poor countries do not have access to the services of professionally qualified staff that have the capacity to cope with obstetric emergencies, should they arise. Traditional Birth Attendants (TBAs) assist with about 66% of births in Nigeria (WHO 2011).

## **Background**

### **Maternal Mortality in Nigeria**

Country estimates of maternal mortality in 2015 showed that two countries, account for a third of global maternal deaths. These are: India with actual maternal deaths 45,000 (15%) and Nigeria 58000 (19%) with a Maternal Mortality Ratio (MMR) of 814 per 100,000 (WHO *et al.* 2015). Several Nigerian studies have shown high national maternal mortality levels, large urban-rural disparities and variations across geographic regions, with greater mortality in the northern than in the southern states (Federal Ministry of Health 2014). One study found regional variation of maternal mortality ranging from 165 per 100,000 in the south-west to 1,549 per 100,000 in the north- east (Federal Ministry of Health 2014). The mortality

ratio was also higher in the rural (828 per 100,000) than in the urban areas (531 per 100,000). Although MMR is declining globally, Nigeria is grouped among the countries with insufficient progress towards decline (WHO et al. 2015).

The problem of maternal mortality in Nigeria is multifaceted, stemming from lack of access to appropriately qualified health staff, complex social, cultural and economic characteristics of the people which include traditional beliefs, poverty, ignorance and low literacy level (Mboho et al. 2013a;Adegoke et al. 2010a). This situation suggests that some people in Nigeria do not have an understanding of what action to take to prevent maternal mortality. This is despite maternal mortality prevention programs by the WHO, government, professionals and multinational agencies like United Nations Population Fund (UNFPA). Significant among the programs and projects are the training of TBAs (UNFPA 2002) and the package of Emergency Obstetric Care (Royal College of Obstetricians and Gynaecologists 2007). Continuing high rates of maternal mortality in Nigeria, suggests a gap between theory and practice.

### **Community oriented primary health care programs**

Most recent research reports that community oriented primary health care programs are the most appropriate approach to address the health needs of poor people (Rosato et al. 2008). The success of this approach is evidenced in national health programs in: China, Cuba, Sri Lanka, Tanzania and Venezuela (Indriami 2012;Rosato et al. 2008). The lack of substantial reduction in maternal mortality in sub-Saharan Africa is thought to be partly due to lack of community involvement in programs (Department for International Development 2004). This was because the programs expected recipient communities to be passive, in

that, mobilization consisted of communities responding to the directions of professionals to improve their health (Rosato et al. 2008). However, a few studies have shown the effectiveness of community mobilization interventions where the community provides the resources and is the active agent of change. An example of such intervention was a cluster randomized controlled trial carried out in Nepal which involved mobilization of women to reduce maternal and newborn mortality. Findings showed that new-born mortality was 30% lower in the intervention than in the control group. Maternal mortality was also 80% lower in the intervention group than in the control (Rosato et al. 2008). Since community involvement appears to have been effective in the aforementioned settings, it was proposed that it might also be useful in Nigeria.

## **Methods**

### Design

A participatory action research (PAR) design was utilized which worked on the premise that those affected by a problem, should participate in the process of rigorous inquiry about it, to develop and enact action plans to improve their situation (Stringer 2007). The idea is that people become empowered by acquiring 'new knowledge' as a result of critiquing their previously held knowledge or beliefs. The new knowledge may then influence their social values, challenging previous stances, which may facilitate change. The PAR process is described as a spiral of steps and each in its simplest form, consists of phases which comprise problem identification or fact-finding, planning, action and evaluation (Carr and Kemmis 1986; Hart and Bond 1995; Waterman et al. 2005). In this paper (Part One) only the fact-finding and planning phases are presented.

## Setting

This project was carried out in a rural community in the south-eastern part of Nigeria. The community has a population of about 8,000 people and is administered traditionally by a leader who is supported by members of the Council of Chiefs. Also, there is a women's leader who mobilizes women when required such as during health campaigns and political rallies. The Primary Health Care Facility (PHCF) is located in the outskirts of the community. One midwife and two Community Health Extension Workers work in the PHCF and owing to dearth of human resources, the health centre only functions for eight hours on each week day with no service on Saturdays and Sundays, attending mainly to children's healthcare needs including immunization. The maternity service had not been functional for the past fifteen years. Traditional birth attendants (TBAs) independently or under the remit of some churches attend to the maternity needs of women. This community was chosen because it is strategically located and easily accessed. It is the most populous in that Local Government Area, thus, it is expected that any intervention here may have a far-reaching influence on the neighboring communities. Additionally, despite the presence of primary health care centre and seven traditional birth attendants, it was a common phenomenon for women to die from childbirth.

## **Ethical consideration**

Ethical approval was obtained from the University of Manchester, from the relevant State Ministry of Health in Nigeria, the Local Government Council, the Community's Council of Chiefs and from participants. In recognition of the patriarchal nature of families in the study

setting, with regard to access to female participants, consent was also given by husbands or alternative heads of families; although individual verbal consent was obtained and recorded. Consent was also given on behalf of the people by the community leader (Shehu 2000). Ongoing verbal consent was taken at the beginning of each phase, to ensure that participation was voluntary.

### **Forming a participatory action research group (PARG)**

The original focus on maternal health arose from the researcher, EE, based on her observation of maternal deaths and background as a midwife while working in Nigeria and as a Nigerian. The researcher then discussed this observation with members of the community to elicit their interest on the subject. A participatory action research group (PARG) was set up to gain representation from all stakeholder groups which included midwives, primary health care coordinator, community health extension workers, medical officer, TBAs, women of childbearing age, older women (menopausal), husbands, clergy and community leaders. A mixture of purposive and snowball sampling techniques were used to select people to form the ARG. People were purposively identified who were directly or indirectly involved with pregnancy and childbirth. Specifically, EE held a discussion with these people to elicit their personal interest in the prevention of maternal mortality and joining the ARG, and to obtain further recommendations of people to be approached to join through snowball sampling. The PARG members were called 'co-researchers' because they would collaborate with EE to work throughout the phases of the PAR which include generating and analyzing data as well as decision making on actions and evaluation. Eventually they would serve as agents of change in their community (Winter and Munn-



Giddings 2005;Koch and Kralik 2006;Koshy et al. 2011). Those included in the ARG are shown in Box 1.

**Box 1. Members of the PARG**

1. Two women of childbearing age
2. One husband
3. Two community leaders (Village head and a women leader)
4. One clergyman
5. One traditional birth attendant
6. One menopausal woman/mother-in-law
7. One Primary Health Care Coordinator
8. One midwife educator representing the Director of Nursing and Midwifery services in the State
9. One midwife
10. One medical practitioner involved in maternity care.

Following consent, EE carried out an induction workshop for these volunteers. At this meeting, the PARG discussed their initial perspectives on maternal mortality and these were recorded. In appreciation of the scientific perspective of maternal mortality, the group agreed that they needed to determine the perspectives of the other members of the community with regard to their knowledge, attitudes and practices concerning maternal mortality with the view to developing a strategy for its reduction. To achieve this, qualitative methods were utilized for data generation and analysis from non-PARG community

members. Additionally, after identifying their research training needs, the rudiments of the PAR process were presented to enable them to function as co-researchers. This project took place between 2009 and 2011.

### **Data collection**

#### Phase 1: Fact-finding

The objectives set for this phase in collaboration with the co-researchers focused on the following:

- i) To determine the perspectives of the community members on the causes of maternal mortality.
- ii) To determine their attitudes towards maternal mortality.
- iii) To identify their maternal health practices.
- iv) To identify their perspectives about factors which contribute to maternal deaths.
- v) To identify their perspectives on the prevention of maternal mortality.

Based on the objectives, the PARG decided to carry out interviews and focus groups with members of the community and to observe the practices of skilled and traditional birth attendants. Purposive sampling was utilized to select information-rich participants (these are people with appropriate experience) for the interviews and focus groups based on their relevance to the prevention of maternal mortality; and because of the exploratory nature of this study. Since the co-researchers were not experienced researchers, they mandated EE to develop the interview and focus group guides. These were developed to elicit data on the perspectives, attitudes and practice of members of the community on maternal deaths. Data were collaboratively generated by EE and the co-researchers. This involved 29 individual in-depth interviews of women of childbearing age (this number was determined by data

saturation in that further interviews did not generate new information/data); 8 focus group discussions with various homogenous groups of the community thus: chiefs, clergy, mothers-in-law/menopausal women, husbands, TBAs, older women of childbearing age (23-49 years), younger women of childbearing age (15-22 years) and skilled birth attendants (doctor and midwives). These allowed for adequate coverage of the population.

Additionally, an observation guide was developed for the practices of birth attendants. Non-participant observations were carried out by EE on the practices of five TBAs, a midwife and one community health extension worker. Five out of seven TBAs in the community and the other birth attendants were observed because they were available for the study. Each observation session lasted for about six hours. No malpractice was observed; otherwise EE would have intervened professionally with her midwifery skill where necessary to save life.

### **Data Analysis**

Audio-tapes of interviews and focus groups were transcribed verbatim, anonymity of respondents ensured by replacing names with identity codes (Halcomb and Davidson 2006). The interviews and focus groups were translated from the local dialect into English and then back translated to ensure accuracy (Squires 2009). Subsequently data were fed into NVivo 8 qualitative software and sorted into codes which were grouped into categories and finally developed into overarching themes (Miles and Huberman 1994) concerning the respondents' perceived understandings of the causes of maternal mortality. The emphasis of data analysis in this project being a PAR was not concerned with comprehensive interpretation of all data; rather it focused on data that would reveal new possibilities for action to bring about change (Winter and Munn-Giddings 2005).

## **Results**

**(Please insert Table 1 here)**

**(please insert Table 2 here)**

**(please insert Table 3 here)**

As shown in Table 1, twenty-nine respondents had in-depth personal interviews; these were all females aged 15 years and above with age group 26- 35 years constituting more respondents. Table 2 shows that the participants observed were mostly traditional birth attendants including a male. Only one midwife and a Community Health Officer were observed. In Table 3 the constitution of the various focus groups are presented. Table 4 presents interpretation of the quotes codes used for the interviews and focus groups.

All the data were grouped into six themes: (1) ignorance, (2) maternal health problems, (3) socio-cultural factors, (4) birth practices, (5) poverty, and (6) physical environmental factors.

**(Please insert Table 4 here)**

### **1. Ignorance about causes**

Some of the participants expressed ignorance and helplessness about the cause of maternal deaths because no place of delivery guarantees total safety for the women during childbirth. Part of the problem is that some of the pregnant women and the TBAs lack adequate knowledge about what constitutes good care for the childbearing women. Ignorance in this context indicates poor scientific knowledge of the causes of maternal deaths. This appears to determine the type of maternity care preferred for the women.

‘I do not know what can lead to death of women during childbirth since some people would prefer hospital to TBA delivery because it is said to be safer, yet women still die in the hospital. It is a dilemma’. (MLMW.FG7.04)

‘It appears there is so much ignorance in our community about the causes of death of women in childbirth. We have reached our wits end and we do not know what to do to stop this problem. We would urge the Government to organize enlightenment program to give us a good understanding of this problem’.  
(CL.FG5.02)

## **2. Maternal health problems**

On the other hand, there were some better informed members of the community who demonstrated knowledge about the five preventable direct causes of maternal deaths: hemorrhage, sepsis, unsafe abortion, eclampsia and obstructed labor. The knowledge expressed here is mostly experiential and may not be attributed to scientific knowledge with exception of that expressed by the skilled birth attendants: ‘Bleeding can lead to the death of a woman when she is pregnant or when she is putting to birth’ (int.4). Another direct cause of maternal deaths mentioned by some participants is convulsion which occurs in the later part of pregnancy, during labor or after delivery. This is most likely to be eclampsia. ‘Maternal death can also be caused by convulsion which can occur during delivery’ (MLMW.FG7.06). Another cause of maternal deaths discussed mostly by the health professionals is sepsis. ‘We do not see much of the sepsis because not all of those with complications come to the hospital’ (DMW.FG8.04). Some members of the community pointed out that some women also die as a result of unduly prolonged or obstructed labor.

The community members also mentioned some medical conditions which indirectly cause maternal deaths, for example, malaria or HIV.

### **3. Socio-cultural and superstitious beliefs**

The people of this community appear to have strong cultural beliefs that are not based on scientific evidence; these are mostly superstitious beliefs. They also have a firm belief for religious observances. Although the participants demonstrated experiential knowledge of the causes of maternal deaths, they attributed these complications to evil spirits, other superstitious and religious beliefs as well as some cultural practices:

‘Evil pronouncements on the expectant mother, for example . . . a person may curse the pregnant woman by saying that she would not have the baby safely. This could be fulfilled and the woman dies in the process of childbirth’. (YW.FG.2.02)

Participants also reported they knew of people who had confessed to making these curses and causing people to die.

Marital infidelity as a cause of maternal deaths (*ekpo nkawo*) was expressed by many participants. A sign of this problem, according to the participants, is manifested in prolonged and difficult labor:

‘I can remember one woman who died a few years ago. We were in labor at the same time at the TBA’s place. She had a difficult labor and was persuaded for a long time by the TBA to make a confession about the men she had slept with during pregnancy, she

mentioned six but refused to mention the seventh one . . . . Her condition became very bad that she was taken to the hospital; she had the baby but died eventually' (Int.11).

The confession by the woman as reported did not solve her problem and so, as upheld in the culture, it was assumed that she did not mention all the men she slept with, thus giving rise to the idea of a seventh man.

The participants also reported that some Churches discourage women from hospital delivery depriving them of the care of skilled birth attendants. Such churches are mainly syncretic otherwise called 'spiritual churches'. This discouragement is backed up by 'prophecies' and special 'assignments' for the women as a mark of security for safe delivery:

'Some Churches out-rightly discourage women from giving birth in the hospitals where they can have expert care. They do this by instructing the women to have their babies in the Church, whereas, the Pastors and the members do not have the capacity to attend to such a responsibility. They convince the women through 'false prophecies' that they would die if they have their babies in the hospital. Secondly, they give a false sense of security to the women by giving them what they call 'assignment'. This entails bathing the woman with what they call holy water into which some drops of olive oil and cassava and pineapple leaves infusion has been added.' (C.FG.4.04)

Furthermore, some Churches have been blamed for encouraging pregnant women to fast depriving them of essential nutrients. TBAs also appeared to perpetuate unhealthy food

taboos as a result of superstitious belief. For example: 'I discourage pregnant women from drinking milk ... so they would not have big babies' (TBA3).

#### **4. Poverty**

Poverty was a common complaint among the people as a related factor to maternal deaths. This was expressed as lack of money which makes it difficult to afford care given by skilled birth attendants (hospital care): 'I appreciate that hospital care is better for our women but we lack money for that. For example, the referral hospital charges about N5,000 to N6,000 (£21 to £25) excluding cost of medication' (H.FG1.05).

The participants claimed that the TBAs' services were more affordable with a flexible payment plan. To the contrary, some of the husbands argue that some TBAs are becoming expensive and yet the women still preferred to go to the TBAs.' (H.FG1.02).

The contemporary health practitioners (skilled birth attendants) also corroborated that lack of money is a contributory factor to maternal mortality.

'The major problems we observe in this locality include poverty...these are depriving the women of skilled birth attendance. Some of the women are single mothers, also mostly teenagers and school drop-outs, they do not have a means of livelihood and so cannot feed well during pregnancy. They cannot afford the hospital bills which ironically, is lower than what some TBAs charge them. The cost of ante natal care in this Hospital is N1,500 (£6) and the bill for delivery including bed fees is



N2,000 (£8). This is lower than the TBAs' fees, yet most of them are attended by the TBAs and are only brought here when they are almost dying' (DMW.FG8.05).

In reality, availability of funds was said to be an important factor as those who claim to lack money would go to the TBA for help and some would patronize the local patent medicine dealer. As shown, the decision to go to a TBA was more complex than just as a result of cost.

### **5. Birth practices**

Birth practices affecting maternal mortality were identified as age at first pregnancy, skill of birth attendant, and timing of referral to hospital. The participants' perspectives on age at first pregnancy as a risk factor, showed varied opinions and these involved children getting pregnant: 'I became pregnant when I was 12 years old and I had the baby, so I feel that at age 12, a girl is old enough to start having babies' (Int. 17) and '... at age 13 years, a girl is matured enough to get pregnant ...' (Int.8).

The results also show that women are rarely attended to in pregnancy and childbirth by skilled birth attendants except in emergencies. Rather most of the women interviewed, 18 out of 29, were attended by TBAs. The hospital/skilled birth attendance is not a popular choice by the people. However, it was found during observation, that the TBAs in this study did not readily refer women with complications to the hospital. One also stated that she first tries out her remedies and only refers when such remedies fail:

‘I have never had need to refer any woman to the hospital except for once when another TBA referred a woman who had been in labor for two days to me. I tried everything I could but failed, so I referred her to the hospital . . . ’(TBA 3)

All the 29 women of childbearing age interviewed reportedly opted for the hospital in emergencies in an ideal situation.

## **6. Physical environmental factors**

Factors in the physical environment were reported to be contributory to maternal deaths in the study setting. The participants expressed concern about the poor state of their transportation system and how this has contributed to maternal death in the past:

‘A woman in this community died while trying to get a means to transport her to the hospital. She was delivered by a TBA and thereafter became very weak, the family spent about two hours looking for a means to transport her to the hospital for help, and she died in the process. . . ’ (MLMW.FG7.09)

Locally transportation is particularly difficult which gets worse at night when no public transport is available at such time.

Additionally, the participants expressed dissatisfaction about the location of the Health Centre in the outskirts of the community, its non-functionality and unhelpful protocols:

‘The Health Centre is far away from where the people live . . . . There are no equipment for delivery in case any woman comes in labor. . . . I feel very frustrated working here. I have been here for about three years and no pregnant woman has come to this clinic . . . We have no fixed clinic days for antenatal care but we appeal to the women to come at will, yet they do not come here. The last time a woman was delivered here was in 1995. There have been no live births at the centre between 1995 and 2009’. (CHW)

Some concerns were raised about the state of poor hygiene in the traditional health facilities. Some TBAs deliver the women of their babies in an open space behind their houses.

‘The state of hygiene is very poor in some TBAs’ area of delivery; some of them conduct delivery in the open space behind their houses making the woman to be delivered to lie on a piece of plank (flat wood) which is usually not properly cleaned in-between clients’.  
(MLMW.FG7.07)

On the other hand, TBAs were acknowledged by the people to be always available and their fees were flexible. In effect, the TBAs were still functional while the maternity services at the Health Centre had ceased for about fifteen years prior to the study because no midwife had been deployed to work there.

## **Phase 2: Planning**

The themes already discussed were fed back to the PARG for deliberation on what would be the subsequent action. This was done in two meetings held two weeks apart by the PARG. The overall aim of this phase was to plan appropriate actions, in response to the data. The specific objectives for these actions were

1. To educate the members of the community on the causes and prevention of maternal mortality using scientific evidence.
2. To motivate members of the community through the education program to re-interpret the meanings they had about some aspects of maternal mortality due to superstitious beliefs.
3. To hold advocacy discussions with relevant stakeholders with the hope to attract assistance for the improvement of health and social infrastructures in the community to prevent maternal mortality.
4. To educate TBAs on danger signs during pregnancy and delivery; reinforce need for referral and educate on hygiene in their practice.
5. To create a common forum between TBAs and midwife/community health extension workers.

Various actions were deliberated upon and consensus reached as to which ones were feasible in an attempt to prevent maternal mortality. The actions as presented in Table 5 included (1) community education to address objectives 1 and 2; (2) training of traditional birth attendants, objective 3, (3) creation of a common forum between the traditional birth attendants, skilled birth attendants and other health workers, objective 4, and (4) advocacy

discussions with relevant stake holders, objective 5. Following the planning, implementation of the actions and evaluation of the project are presented in Part two of this article. The flow chart for Phases I and II of this PAR is presented in Figure 1.

(Insert Table 5 here)

(Insert Figure 1 here)

## **DISCUSSION**

There is dearth of literature on the use of PAR to mobilize and empower communities to plan to take action to reduce or prevent maternal mortality in this context. To the best of our knowledge, this project serves as the first PAR on this issue in this setting and the findings are quite revealing, especially the influence of cultural/superstitious beliefs on maternal mortality. A study in Nigeria utilized participatory approach to reduce delays in reaching emergency obstetric services, though useful, this study did not utilize PAR to prevent maternal mortality comprehensively from the perspectives of the participants (Shehu 2000a). Thus, this PAR emphasized that actions were planned collaboratively with the participants and framed from their needs as identified by them and not from anticipated or premature solutions identified by the researchers and other health professionals involved in the project. Therefore, it is expected to serve as a reference point for future community mobilization to reduce maternal mortality. It is important to incorporate the influence of the local context, for example cultural beliefs in any intervention to prevent or reduce maternal mortality.

Maternal mortality has been identified as a serious health problem in Nigeria (WHO et al. 2015). Studies from sub-Saharan Africa corroborate the findings of the fact-finding phase of this study namely that maternal mortality is caused by complications of pregnancy but that these are attributed by study respondents to superstitious beliefs and traditional practices (Kawuwa et al. 2010; Igberase et al. 2009; Mboho et al. 2013b; Adegoke et al. 2010b). These beliefs do not have scientific basis and are based upon superstition (Izugbara 2000; Chiwuzie and Okolocha 2001; Umoiyoho et al. 2005; Osubor et al. 2006; Mboho 2009). Other factors identified by study participants included poor health systems and facilities (Adegoke et al. 2010b; Ibeh 2008; Ndikom 2010a). However, we are the first study to incorporate the strategy of mobilizing the community to plan and take action to improve the situation.

However, reliance on superstitious beliefs is not consistent across Nigeria. One of the factors which influence these beliefs is the level of education. The lower the level of education, the less likely people are able to make accurate judgments about the potential danger of medical symptoms during and after delivery (WHO 1999), the capabilities of various types of birth attendant, suitable places of delivery and types of treatment in the event of any complication (Osubor et al. 2006; Adegoke et al. 2010a). As shown in Table 1, the educational status of the respondents in this study is generally low. Most of the women interviewed for this research were attended by TBAs during pregnancy or had their babies in the Church which is typical of health-seeking behaviour by pregnant women in rural Nigeria (Osubor et al. 2006; Mboho 2009). Perceptions of the etiology of pregnancy-related problems are major deciding factors in the choice of place for healthcare. For example, if the problem was thought to have spiritual or traditional origins, people believed that such

would be best handled by traditional healers and spiritualists (Osubor et al. 2006;Adegoke et al. 2010a).

WHO (2013), reported that only about 34% of births in Nigeria are attended by skilled birth attendants. Since most of the women in this community were attended by unskilled birth attendants, they are at a higher risk of dying due to childbirth than those attended by skilled attendants (Etuk et al. 2000). Evidence has shown that 80% of maternal deaths are preventable given the right interventions which include skilled birth attendance and emergency obstetric care (van den Broek 2006). Our findings show that traditional beliefs are also important factors that should be addressed in the prevention of maternal mortality in this and similar settings.

Lack of money was identified by the community members as one of the underlying causes of maternal deaths because this was thought to make hospital/professional service unaffordable. Poverty reduction was not addressed in this context because it is beyond the scope of this study. Other authors have also identified poverty as an issue militating against the utilization of the services of skilled birth attendants (Asowa-Omorodion 1997;Lawoyin et al. 2007;Adegoke et al. 2010a). In contrast, it was found that TBAs were more expensive than the local hospital (Mboho M. et al. 2013). This corroborates findings in this study which revealed that overall, hospital fees were found to be cheaper than those of some TBAs' who generally get their fees by cash and in kind. In this context, one could wonder if the poverty is only a mind-set or really genuine, given the fact that these are the same people who can afford to pay the TBAs. Admittedly, some TBAs were said to be flexible and accommodating

to the women by not being fussy about their fees and the women had the liberty of paying what they could afford.

Location of the Health Centre in a lonely and bushy area in the outskirts of the community makes its accessibility difficult. Other issues included unavailability of staff and service for about sixteen hours a day. Inadequate numbers of midwives appears to be a common problem in rural health facilities in Nigeria and this has been associated with non-utilization of such facilities (Ndikom 2010b;Adegoke et al. 2010a;Ibeh 2008). Additionally, unhelpful protocols at the referral hospital which include an upfront fee for service were deterrents. The WHO recommends that public healthcare facilities should be available and accessible to all (WHO et al. 2007) and that no one should be subject to financial hardship in doing so (WHO 2010).

WHO recommends the provision of emergency obstetric care at the basic, local, and comprehensive hospital levels of healthcare as a means of dealing with any life-threatening complication in pregnancy, childbirth and during the puerperium (WHO et al. 2009). As observed, basic emergency obstetric care which could be provided in the Health Centre in this community was not possible because of lack adequate resources.

In this study, the community was successfully mobilized through the process of PAR to plan to take action based on the results of the fact-finding phase. These actions are expected to improve their situation with regard to the prevention of maternal mortality. As described by UNAIDS, a community is said to be mobilized when a particular group of people become aware of a shared concern or common need and decides to take action together to create



shared benefit (UNAIDS 1997). Community mobilization in this context involved selection of volunteers from the community into the PARG and they worked as co-researchers who eventually would become change agents in their community (Koch and Kralik 2006; Winter and Munn-Giddings 2001). To facilitate this function, an orientation workshop was held as previously discussed to allow for co-learning of the perspectives of the people on maternal mortality as well as the scientific evidence presented by the outside researchers.

Following this, members of the community (Co-researchers) demonstrated that they have become better aware of the causes of maternal mortality. This new awareness motivated them to collaborate with the outside researchers to generate and analyze data on the perspectives of the generality of the community on maternal mortality. The participatory process created opportunity for members of the community to identify gaps in their knowledge as compared with evidence (Stringer 2007).

Consequently, the ARG in collaboration with EE developed a plan of action based on those gaps the community felt they could influence such as ignorance of the real causes of maternal mortality, superstitious beliefs and transport issues. Additionally, it was also agreed that TBAs be trained and be brought into the oversight of midwives and their birth attendance practices to be challenged. The community planned to take action on only the mentioned items because the resources to achieve these were readily available such as utilizing EE and other health professionals for the community education on maternal mortality and TBA training. They also decided on advocacy.

## **Conclusion**

This project highlights that through the process of PAR, the community being an important resource, can be mobilized and empowered to plan to take action in collaboration with skilled birth attendants to prevent maternal deaths, thus bringing about a change in their adverse circumstances. The implication of this is that this process will complement the other strategies set by WHO, which are: skilled birth attendance and emergency obstetric care to prevent maternal deaths. The findings of this project at this stage show that multiple factors influence the occurrence of maternal deaths such as ignorance, superstitious beliefs, cultural/religious practices, as well as negative attitudes. These influence the health-seeking behaviour of the people. Additionally, the health care and transportation infrastructure in this community do not appear to support optimal maternal health care. Implementation and evaluation of the actions in this project and the process of change evidenced in empowerment and emancipation are reported in Part Two of this paper.

## **Relevance to clinical practice**

Findings of this study showed that although the people appeared to have an idea of the health problems that result in death of women during pregnancy and childbirth, they attributed these problems to evil spirits and other superstitious beliefs. This connotes ignorance. Additional factors mentioned as causes of maternal deaths include poor road and health systems infrastructures as well as cultural birth practices. These issues need to be considered in programs to prevent maternal mortality in this and similar settings. Such interventions should not be imposed on passive and ignorant recipients of healthcare. Therefore, this project motivated the people to have a better understanding of their

circumstances concerning maternal mortality so as to collaborate with health professionals in its prevention.

### Summary Box

What does this paper contribute to the wider global clinical community?

- Superstitious beliefs of people in rural community interfere with use of modern health services to prevent maternal mortality.
- It is important to motivate the people to have a better understanding of their circumstances concerning maternal deaths so as to facilitate its prevention.
- Empowerment of rural community members and their collaboration with skilled birth attendants through participatory action research/paradigm should have a key place in programs to prevent maternal mortality.

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**Table 1** Demographic data of the in-depth interview Respondents

<b>Characteristics</b>	<b>Number</b>	<b>Percentage</b>
<b>Age</b>		
15 years and less	2	7.00
16 – 25 years	8	27.6
26 – 35 years	11	37.9
36 -45 years	5	17.2
46 years and more	3	10.3
Total	29	100.00
<b>Sex</b>		
Male	0	0.00
Female	29	100.00
Total	29	100.00
<b>Educational attainment</b>		
Primary	18	62.1
Secondary	11	37.9
Tertiary	0	0.00
Total	29	100.00

<b>Occupation</b>		
Dependant	14	48.3
Petty trading	15	51.7
Civil servant	0	0.00
Student	0	0.00
Total	29	100.00
<b>Marital status</b>		
Single	16	55.2
Married	13	44.8
Total	29	100.00

**Table 2** Demographic data of the observed participants (Birth attendants)

<b>Characteristics</b>	<b>Number</b>	<b>Percentage</b>
<b>Age</b>		
16 – 25 years	0	0
26 – 35 years	0	0
36 -45 years	0	100
46 years and more	7	100
Total	7	
<b>Sex</b>		
Male	1	14.3
Female	6	85.7
Total	7	100.00

<b>Occupation</b>		
Traditional Birth Attendant	5	71.4
Midwife	1	14.3
Community Health Worker	1	14.3
Total	7	100.00

**Table 3: Focus Groups**

<b>Participants</b>	<b>Number of part</b>
Chiefs (Community leaders)	6
Husbands	8
Mothers-in-law	9
Clergymen	6
Skilled birth attendants (doctor and midwives)	8
Traditional birth attendants	6
Younger women of childbearing age (15-22 years)	6
Older women of childbearing age (23-49 years)	8



**Table 4: Interpretation of the quotes codes**

<b>Interview</b>	<b>Coding</b>
Respondents (recognized by number)	Int.
<b>Focus Groups</b>	<b>Coding</b>
Husbands	H.FG 1
Older women of childbearing age (23-49years)	OW.FG 2
Younger women of childbearing age (15-22)	YW.FG 3
Clergy	C.FG 4
Community leaders	CL.FG 5
Traditional birth attendants (TBAs)	T.FG 6
Mothers-in-law/menopausal women	MLMW.FG 7
Doctors, midwives and other health workers	DMW.FG 8

Table 5. Planned actions following the problem identification

Action	Method
Community education on maternal mc	<p>The education program was carried out in a series of six interactive sessions, each lasting for about three hours over a period of six days.</p> <p>This arrangement was to ensure adequate coverage of both the subject and the various groups in the community. As agreed by the ARG, those of us in the group who were health professionals (the midwife, doctor and EE) should facilitate the educational program and work in collaboration with the Women Leader and the Clergyman. The content of the education program was informed by literature and experiences of the action research group members especially the midwife, doctor as well as helpful information from other ARG members. We were mindful not to criticize their beliefs. To enhance acceptability of the education program, we reinforced their cultural beliefs and practices which were not harmful to health, for example, prayers. We also encouraged seeking help from skilled birth attendants (Van Dyk 2001). We desired that any change that would ensue should be through the individual's intrinsic motivation due to understanding and internalization of the discussions which have been interactive and non-condemning. ARG invited all those who took part in the interviews and focus group discussions as well as other adult community members who wished to attend. Most of the participants about 50 (90%) who were invited, attended the education program.</p>
Training of TBAs	<p>The training of TBAs took place over two days. The health professionals (including EE) of the ARG developed the TBA training protocols. However, the women's leader provided information on cultural perspectives for example, local terminology. The areas covered included: overview of maternal mortality; antenatal care / identification of high-risk mothers; normal labor / duration of each stage; care of the delivery field (antisepsis, protective covering</p>

for TBA and delivery mat); normal puerperium; complications of pregnancy; complications of labor; complications of puerperium and referral.

As for the community education, we were careful not to criticize the inputs of the TBAs, but where certain practices were harmful, for example, referring women with complications to fellow TBAs, delay of referral or non-referrals, we tactfully presented an alternative such as referral to health facilities with skilled birth attendants (Ode 2014). Only four out of the six TBAs that were expected, attended the program. Plan was also made for their supervision by the midwife.

#### Common forum

Following agreement with the women's leader, the TBAs, the Midwife and the Community Health Extension Workers, a forum was held later in February, 2010 at the Health Centre as scheduled and moderated by EE. Five other action research group members were also in attendance. The overall aim of the forum was to create a rapport between the Health Centre staff and the TBAs to facilitate referrals from the TBAs. Subsequently, an interactive session ensued and the two major parties discussed freely, they welcomed the idea and decided to meet once every month. In the plan, care was taken not to criticize their beliefs but scientific evidence was presented with demonstrations using teaching models and other visual aids where appropriate to aid understanding (Ode 2014).

#### Advocacy

Advocacy discussions were undertaken with relevant stakeholders to attract assistance for the improvement of health and social infrastructures in the community to prevent maternal mortality. These spanned from April to May, 2010. Advocacy by an individual or by a group normally aims to influence public-policy and resource allocation decisions (Asbridge 2004;Parvin 2007).

Objectives of the advocacy included the sensitization of both traditional and contemporary policy-makers on the maternal healthcare situation in the community as well as to request that

the women and the Health Centre be given adequate attention with regard to equipment, staffing and provision of staff accommodation. EE and representatives from the ARG met the Vice Chairman of the Council and discussed our interim findings. We emphasized the need for equipment of the Health Centre. This action might help restore the functioning of the centre. The problems of lack of equipment and adequate staff were presented to the Commissioner.

The interim findings were also discussed with the Commissioner of Social Welfare with the hope that her Ministry could donate some equipment to Health Centre and also that of funding a sustained community education on the prevention of maternal mortality. At this forum, we were informed of a recent policy of the State government to provide free health services to all pregnant women and children aged 0-5 years in the State.

The council of Chiefs in the community was also approached and the following areas were deliberated upon.

1. Assistance with the provision of accommodation in the community for the four midwives newly transferred to the community to ensure the availability of skilled birth attendants in the Health Centre. These midwives had not been able to assume duty for up to about six months after their posting because of lack of accommodation. The chiefs promised to search for a suitable accommodation for them if that would improve the staffing situation of the Centre.

2. We also asked for better transportation during emergencies when women were referred to hospital. The chiefs promised to solicit the help of all the commercial and private transport owners in the community to be on the alert and oblige their services to avert maternal deaths.

3. Furthermore, we also deliberated on the possibility of pooling community effort to provide some basic furniture like benches in the Health Centre and also repair its access road. The chiefs readily decided to gather the youths someday to work on the road so that the Health Centre would be easily accessible. Concerning the benches and other equipment in the facility, they lamented that they would require government assistance.

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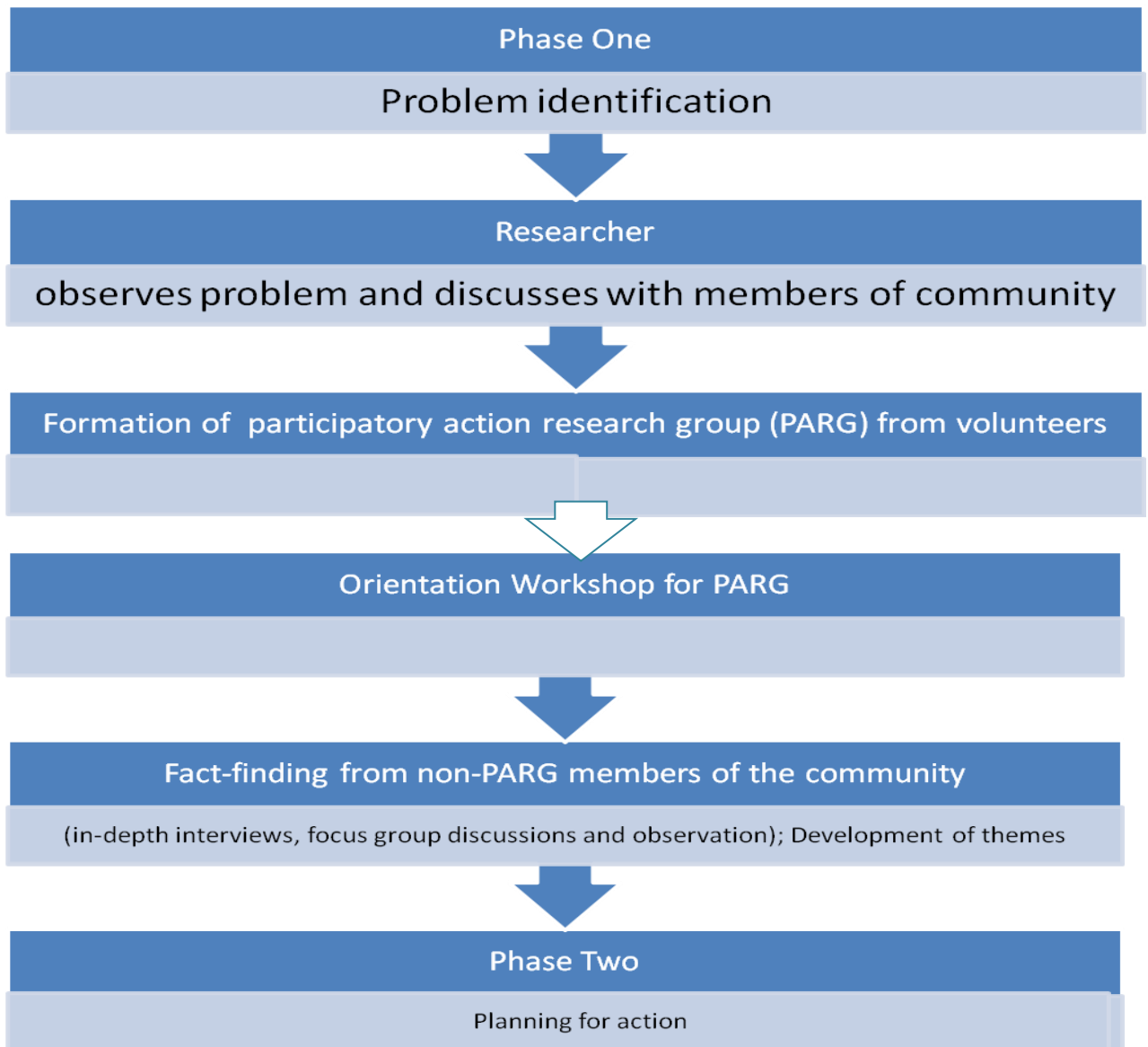


Fig. 1: Flow chart for Phases I and II of this participatory action research