

THE USE OF MOBILE TELEPHONE IN REDUCING PRE-NATAL MATERNAL MORTALITY: CASE STUDY OF *ABIYE* (SAFE MOTHERHOOD) PROJECT IN ONDO STATE, SOUTHWEST NIGERIA

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Abstract

The *Abiye* project in Ondo state, Nigeria is adopting mobile telephones as a telecommunication tool to connect pregnant women in remote rural locations with health extension workers and delivery facilities to reduce maternal mortality and improve live births. Since the commencement of the project, maternal mortality has been reduced in the State by 47% and there is 96% increase in number of live births. There is also 26% reduction in child mortality and a general improvement in mother and child health as a result of the project. The major challenge faced on the project however, is the unwillingness of the participating pregnant women to surrender the mobile phones given to them and maintained free of charge until after their child delivery. Such phones are meant to be given to other newly registered pregnant women on the project. The problem of project sustainability is also a major challenge.

Background

Maternal mortalities resulting from childbirths are still prevalent across the developing countries. It is estimated that 1500 women loose their lives everyday across the world from pregnancy or childbirth complications. About 99% of these occur in developing countries and it is estimated that Nigeria accounts for about 30% of that figure, being the most populous among black African countries.¹ Most of the victims of prenatal maternal deaths are residents of rural areas where there are in-adequate infrastructures, health and communication facilities. Poor communication makes it further difficult for pregnant women to obtain information about where to access health care before and during child delivery and relevant immunizations that will prevent them from contracting deadly diseases that could lead to complications during and after pregnancy. Whenever the women face emergencies as a result of pregnancy complications, helps are not available, leading to high mortality rate among rural women.

As a result of the above development, the United Nations has proclaimed as one of the Millennium Development Goals (MDGs) a drastic reduction in maternal mortality by 2015. Ondo state in Southwest Nigeria has one of the most difficult rural environments comprising of thick forests and swampy terrains which make communication and transportation

¹ Figure collected from *Abiye* Bulletin, issued by the Government of Ondo state, Nigeria

difficult in the state. Ondo is therefore one of the states that have recorded very high prenatal maternal mortality rates. This led the current state government to make a determined decision to meet the MDG target of reducing maternal mortality by mobilizing supports of the World Bank, community members and health professionals to start a project which include harnessing communication and health facilities to tackle prenatal maternal mortality in the state.

The researcher made a field trip to Akure, capital of Ondo State and Ondo town to visit facilities of Abiye project which are aimed at reducing maternal mortality and improve women and children health. A brief discussion was held with the Permanent Secretary of the State Ministry of Health and an interview was conducted with the Coordinating Secretary of Abiye project, Mrs Molebi. Also, a discussion was held with an Assistant to the Medical Director of Mother and Child Hospital, Akure. Some literature and documents relating to the project were also consulted.

The Abiye Project

The *Abiye* (Safe Motherhood) project was started in Ondo state in 2009. Initial baseline study conducted across the state prior to the commencement of the project indicated that only 16% of women who attend antenatal clinics return to hospitals to deliver their babies. About 84% of the women could not be tracked, and many of them who could not be helped when facing problems during childbirths obviously may have contributed to the increase of maternal mortality in the state. The state government first established special maternity health centres in the 18 Local Government Areas (LGAs) across the state, each with close proximity to clusters of rural communities. In addition, 6 Abiye designated health centres, with comprehensive health facilities to cater for fairly complicated natal cases were established across the state. Such comprehensive health centres can carry out caesarean operations. Furthermore, two mother and child tertiary hospitals which offer free services to pregnant women and children under the age of 5 were established in major towns in the State, where highly complicated pre-natal cases could be referred. Each of the two hospitals carry out an average of 22 complicated deliveries, including caesarean operations per day, according to information obtained from the Chief Medical Director of the mother and child hospitals.

In 2010, in order to facilitate quick communication between the health facilities and pregnant women resident in remote rural areas, the use of mobile telephones was introduced into the project. Community Health Extension workers (called Health Rangers) were appointed and posted to rural areas in the state to act as intermediaries between pregnant women and Abiye maternity health centres. The health rangers monitor the well-being of pregnant women attached to them (about 20 pregnant women per ranger). To facilitate quick and effective communication between the women and health rangers, about 2000 units of pre-paid cellular mobile phones were distributed free of charge to pregnant women in various rural locations across the state. The telephones have a Close User Group (CUG) facility, which support and enhances direct communication between a pregnant woman and the health ranger dedicated to her care.² Whenever the pregnant woman

² This information was given by the Secretary of the *Abiye* project, Mrs Molebi in Akure, Ondo state.

notices any problem, she was taught how to immediately use the mobile phone to call the health ranger who will provide immediate medical advice. The health rangers are also provided with facilities to conduct emergency evacuation of a pregnant woman from her home to the nearest maternity health centre. Each health ranger is provided with a branded motorcycle, an ambulance tricycle or an ambulance speed boat, depending on the physical terrain of the area. The comprehensive health centres are also equipped with ambulance vehicles to evacuate complicated cases to the tertiary health facilities whenever there is such emergency.

Project Achievements

Since mobile telephone services was introduced into the project, it is revealed that between 2010 and 2012, there has been 47% reduction of maternal mortality cases in Ondo state, an increase of 58% of registered patient and an increase of 96% of the number of live births. There has also been a reduction in disease burdens and increased immunisation coverage in the State. Furthermore, there is now a remarkable increase in child deliveries handled by trained midwives and qualified health personnel. Pregnant women now attend antenatal clinics because of the encouragements and incentives offered on the project. The project has also impacted on reducing child mortality. An increase of 26% has been recorded in children admission in paediatrics health centres, which has resulted in corresponding 26% reduction in child mortality in the State.³

An impact assessment of the *Abiye* project carried out by the Nigerian Institute of Public Health with support of the Bill Gate Foundation revealed that maternal mortality rate has reduced by 30% in Ondo state since the commencement of the project. However, the target is to reduce the rate by 75% by 2015, in conformity with the Millennium Development goal.

A beneficiary of *Abiye* project, who encountered the researcher during a visit to the Mother and Child Hospital, Akure for post-natal consultation, Mrs Florence Agunbiade expressed her delight at the project and credited the project for saving her life during childbirth since she lives in a village in Ita Ogbolu, about 27 kilometres from the State capital, which lacked maternity facilities. Another woman encountered in a primary health facility in Ondo town, Mrs Ajoke said, “we thank our Governor for this project. Several women in our village have delivered successfully and we thank God for this.”

Problems and Challenges

The first problem that is noticed on the *Abiye* project is incomplete telephone signal coverage of the rural communities in Ondo state. The mobile telephone service operator which is partnering with the project has not been able to achieve 100% coverage of the State and this has precluded a substantial number of women resident in some remote locations to benefit from the project. However, the State government has entered into a pact with the telephone service provider, Globacom Network, to make some emergency facilities available for telephone signals in some rural locations and is providing incentives to the company to expand their networks.

³ Evaluation report of *Abiye* project

Secondly, the project implementers have revealed that many of the women who have participated in the project were not willing to return the telephone handsets after child delivery. Such telephone handsets are meant to be transferred to newly registered pregnant women. This has put more financial burden on the project to acquire more mobile phones which their budget could not immediately accommodate.

The third challenge faced by the project is shortage of qualified health personnel to cope with the quantum of pregnant women who come out of rural locations to register in maternity facilities established by the project across the state. The state government had to embark on emergency recruitment and training of more midwives to cope with the pressures experienced on the project. The project also has to provide incentives for the health workers to continue to stay in rural areas where there are minimum infrastructural facilities.

Inadequate finance is another major problem being faced on the project. Currently, the participating pregnant women are offered free antenatal and delivery services and free telephony services. This has put enormous pressure on the state health budget. However, the World Bank is presently supporting the project, but there could be a problem of sustainability after the cessation of the World Bank assistance.

Conclusion

The *Abiye* Project has contributed tremendously to reduction in maternal and child mortalities in Ondo state, Nigeria. However, there is need for the federal government, local civil society organisations and international donor agencies to support the project by providing relevant resources to sustain it. This project can be replicated in other rural communities across Nigeria if lessons learnt can be used to develop enhanced and more cost effective components of the project in other states' versions. For instance, cheaper but very reliable telephone handsets could be provided on such projects and the participation of more telephone service providers could be enlisted as part of their social responsibility programs. The project can certainly save the lives of more pregnant women.