ISSN-L: 2223-9553, ISSN: 2223-9944
Vol. 2, No. 3, May 2012

SERVICES OF THE TRADITIONAL BIRTH ATTENDANTS: HOW RELEVANT IN ACHIEVING MILLENNIUM DEVELOPMENT GOAL 5 ?

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ABSTRACT

The main purpose of this study was to examine the services of the Traditional Birth Attendants and determine how relevant their services were in achieving Goal 5 MDG. This study draws on ethnographic methods of observation and focus group discussions with traditional birth attendants (TBAs), midwives and mothers-in-law/menopausal women. The findings of the study indicate that the traditional birth attendants' services were in high demand within the communities and there is little evidence from the study that this will change in the near future. The findings also revealed how the sampled TBAs, based in their own homes or churches, use supernatural beliefs to discourage women and their family from obtaining obstetric care from trained professionals. The apparent domination of childbirth by TBAs in the study community made the few existing midwives feel powerless to change the situation. Given the wide acceptance of traditional birth attendants in the study communities, there appears a clear need to train them and to promote their integration and monitoring by existing services, such as those of midwives in the rural communities. There is also need for massive community education on good maternal health practices.

Keywords: Traditional Birth Attendants (TBAs), Skilled Birth Attendants, MGD 5 and Rural Communities

INTRODUCTION

The utilization of formal health services in rural settings in Nigeria is generally low (Izugbara&Ukwayi, 2004). Therefore, the health needs of the people are in the hands of unqualified professionals. Skilled and professional health services are only available to a small number of people in rural settings (Izugbara&Ukwayi, 2004; Essien, 2006). It has also been suggested that only about 28 percent of rural Nigerian women have births handled by skilled personnel (Harrison, 1997; UNICEF, 2001; Bureau, 2002). The majority of thebirths in rural Nigeria take place with the assistance of traditional birth attendants[5](Essien, Shehu, Ikeh, &Juna 1997; Ransom &Yinger, 2002).

While the WHO initially encouraged the training of these TBAs through the mid-1980s (WHO, 1986), many authors argued about their effectiveness (Okafor and Rizzuto, 1994; Brouwere, Tonglet, &Lerberghe 1998; Yayla, 2003). Nevertheless, studies from Guatemala and Nigeria have shown that the training of TBAs can indeed increase the number of referrals of women with obstetric complications to hospitals, which supports the extension of such programmes until the presence of skilled birth attendants is a reality in developing countries (RHS, 2003). Namboze(1985), while recommending their training, expresses doubts as to whether such women in a traditional setting would change their usual way of conducting delivery, or whether it would mean encouraging a substandard cadre of professionals within the communities. Other authors have argued that over the years the training of TBAs in developing countries has had little impact on maternal mortality and that the most effective measures are those which make it possible to reach a well-equipped hospital (Fauveau&Chakraborty, 1994; Turmen&AbouZahr, 1994).

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[5] Traditional birth attendants: mostly elderly illiterate women with no formal training who conduct deliveries in many rural settings in developing nations, including Nigeria.

The advocates of the training of TBAs have reacted sharply against criticisms of the approach, arguing that the fault lies not in the approach but in the lack of supervision and support, resulting in a diminution of its effectiveness (Mangay-Maglacas, 1990; Sai&Measham, 1992). Other authors believe that training them will at least help to persuade women with pregnancy complications to seek help early in hospitals (Estrada, 1983; Caflish, 1987; Viegas, 1987; Lule, Oomman, Epp, &Ramana 2003).

However, a systematic review of the training of TBAs with the aim of improving the health behaviour of pregnant women found that such training did not improve maternal outcomes (Sibley, Sipe, &Koblinsky., 2004). Davis (2004) however, states that any finding that the training of TBAs has little effect on reducing maternal mortality is not supported by good quality evidence. He notes that either the ongoing support or the integration with existing health services did not form part of previous training of traditional birth attendants. This implies that the training itself was not faulty but rather the failure to integrate, monitor and supervise the TBAs in their practices. Similarly, Asghar(1999) notes that supervision of TBAs constitutes the major link between them and the formal healthcare system.

Further qualified support is offered by Bergstrom and Goodburn(2001), who argue that TBAs have a place in obstetric care, as many countries lack the services of skilled professional healthcare providers and TBAs may be women's only source of care. However, there was no conclusive evidence that trained TBAs would reduce maternal mortality, although they can provide culturally appropriate nurturing in the community setting and offer a first-link line with the formal healthcare system (Bergstrom &Goodburn, 2001). In addition, they suggest that the TBAs should be closely linked with modern health services and prompted to refer their clients to hospitals offering essential obstetric care services. These authors conclude that the role of TBAs should not be ignored, but that their training should be given low priority, while preference should be given to the provision of skilled attendants at the time of childbirth.

An ethnographic study of childbirth healthcare-seeking behaviour in Chiapas, Mexico found that in spite of the availability of skilled attendants, women in this rural community preferred TBAs to attend their deliveries (Hunt & Symonds,2002).

What is MGD 5?

The aim of MGD 5 is to improve maternal health, while the goal was translated into two components which include:

a. To reduce maternal mortality by three-quarters between 1990-2015.

b. To achieve universal access to reproductive health by 2015 (Islam & Yoshida 2009).

Additionally, the two key indicators for monitoring the progress towards the first component are the maternal mortality ratio and the percentage of births attended by skilled birth attendants (Islam & Yoshida 2009).

THE PROBLEM

From the review above the problem of this study is: How relevant are the services of the traditional birth attendants in achieving Millennium Development Goal 5 (MGD)? This formed the basis for the study which was carried out in Etinan and OrukAnam Local Government Areas in AkwaIbom State of Nigeria.

Meaning Of Skilled Attendance at Birth

Professional delivery care is an important factor in reducing the deaths of mothers and babies. It is essential that each birth be attended by trained personnel who give the necessary supervision and care to women during pregnancy, labour and the postpartum period (World Bank, 2005). The WHO et al (1999) define 'skilled attendant' as referring exclusively to people with midwifery skills, i.e. doctors, midwives and nurses who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer complications. However, traditional birth attendants (TBAs), whether trained or not, are excluded from the category of skilled health workers (World Bank 2005). Moreover, even trained TBAs cannot, in most cases, save women's lives because they are unable to manage obstetric emergencies effectively and are often unable to refer for medical aid (Carlough&

ISSN-L: 2223-9553, ISSN: 2223-9944
Vol. 2, No. 3, May 2012

McCall, 2005). The presence of a skilled birth attendant at delivery is thus essential in preventing maternal and neonatal mortality and morbidity. The definition of skilled attendance goes on to emphasize that the process requires a skilled attendant and an enabling environment which includes adequate supplies of working materials, equipment and infrastructure as well as efficient and effective communication system coupled with prompt referral (Graham, Bell, &Bullough, 2001).

METHODS

Study Sites

The specific sites of this study were Etinan and OrukAnam in AkwaIbom State.

AkwaIbom falls within a tropical zone (Ministry of Economic Development, 2005). Its inhabitants include the Ibibio, Annang and Oro people who are mostly Christian except for some African fundamentalists. The major occupations are farming and trading. Etinan and Oruk Anan have an estimated population of 78,960 and 271,321 respectively. Etinan is divided into 10 administrative health districts with three to nine villages in each. The area has 1 hospital and 19 health centers. Oruk Anan has 16 health districts of 130 villages, 2 hospitals and sixteen health centers. The health centers in both areas are meant to provide obstetric care for uncomplicated births but these facilities are often lacking in human and technical resources and are not utilized fully by women who tend to prefer the services of TBAs. The study draws on ethnographic methodology of field observation, and single and focus group interviews.

Study Groups

These included seven traditional birth attendants, ten midwives and ten mothers-in-law/menopausal women.A total number of thirty five observations (35) were carried out, totalling two hundred and twenty eight hours (228hours).

Four focus group discussions were held, two from each site (midwives and mothers-in-law/menopausal women). The focus group discussion lasted between one to two hours

FINDINGS

The functions of the traditional birth attendant in the rural communities make her the main provider of maternity care. In this study, it was very clear that women in the communities investigated did not often use the services of the hospitals or the health centres, despite their close physical proximity; most of the deliveries were conducted at home. Furthermore, it was evident from the focus groups discussions with the midwives in the two communities that hospital or health centre births were not frequent.

During one of the observation sessions in the home of a traditional birth attendant, a pregnant woman who was to have her baby in a few days' time was being attended to by the TBA for a breast abscess.

When explanation was sought as to why hospital treatment was not considered, the simple reason given was that hospitals are often only able to deal with problems arising from natural causes, while this illness occurring in pregnancy was ascribed to a supernatural cause. The TBA felt able to manage the ailment at home using herbal medicines to avoid excision, which the hospital would have carried out. This reveals a high level of ignorance among the people in the study communities.

The midwives of the study areas also expressed a range of views concerning the activities of the traditional birth attendants. For example, they expressed their helplessness and desperation as it seemed that the midwives in the communities were failing in their responsibilities towards the community. The traditional birth attendants, through their purported possession of supernatural powers, had total control of childbirths.

The findings of the study indicate that the traditional birth attendants' services were in high demand within the communities and there is little evidence from the study that this will change. The situation is made more challenging by the fact that most TBAs have no formal education and that their work is neither based on scientific principles nor monitored .Although TBAs had acquired skills over the

ISSN-L: 2223-9553, ISSN: 2223-9944
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years, they operated in unhygienic circumstances which may have increased the risk of infection for the pregnant women, which may result in maternal death.

DISCUSSIONS

Throughout the period of observation of birth practices in the homes of the traditional birth attendants, they described maternal deaths as a common feature for TBAs in neighbouring villages, but were not willing to talk about their own experiences. Although one of them did acknowledge the death of a pregnant woman in her home, she exonerated herself by blaming the woman's infidelity for her death.

In most traditional societies, women do not give birth among strangers, but entrust their care to those they know very well and trust (Goldsmith, 1990). This view is well articulated in the study, since most childbirth took place at home with a traditional birth attendant known and trusted within the community where she lived and worked. Although childbirth is seen as a woman's affair, it is also related to the family, the community and the supernatural world (Liamputtong, Yimyam, Parisunyakul, &Sansiriphun, 2003). Goldsmith (1990) further argues that women's acquaintance with the people around them gives a feeling of safety and this enables them to have a positive attitude toward childbirth. This argument is also applicable to women in the present study, who preferred home birth to hospital birth. In this study, traditional birth attendants at home and churches were responsible for the deliveries of all the women interviewed. Although they had acquired skills over the years, they operated in unhygienic circumstances which may have increased the risk of infection for the pregnant women, for example, as a result of insertion of caustic herbs into the vagina. Infection is a major cause of maternal death in developing countries, especially during the puerperium(Ziraba, Madise, Mill, Kyobutungi, &Ezeh, 2009).

A similar study in Uganda revealed that most mothers were aware of some of the limitations of the traditional birth attendants but still preferred using them and would attend a hospital or health centre only as a last resort during emergencies (Kyomuhendo, 2003). This preference for the TBAs may be due to their availability in the communities and the belief that they are the custodians of childbirth, because of their purported possession of supernatural powers. Pregnant women are being trapped by these assumptions, reinforced by the mystery and superstition in which pregnancy and childbirth are shrouded. The traditional birth attendants thrive on the ignorance of these women and continue to perpetuate the beliefs and customs in the communities (attributing obstructed labour to infidelity on the part of the woman) thus keeping them functioning and acceptable. Additionally, the TBAs' beliefs and practices provided further evidence of poor maternal health care during delivery and the postpartum period. This reflects the risk women in the communities face during childbearing, with a potential increase in maternal mortality. Yalinkaya et al (2008) lament the deaths of pregnant mothers from preventable causes. The activities of the traditional birth attendants during childbirth observed in the present study lead me to suspect that most maternal deaths happened as a result of the mismanagement of labour. The influence of a belief system perpetuated by traditional birth attendants, mothers-in-law and churches is deeply rooted in the lives of the people.Individuals are inclined to maintain beliefs that correspond with their self-concepts, which are "the beliefs and feelings, knowledge and values they have about themselves [and which] give a person his or her identity" (Baron & Byrne, 2000:160). Therefore, for any meaningful maternal healthcare intervention to succeed, a holistic approach to care should be adopted. In other words, appropriate care should be tailored towards culturally congruent and biomedical interventions aimed at reducing maternal mortality.

Over the past decade, traditional birth attendants in many regions of Africa have been trained in childbirth and basic hygiene as part of an initiative aimed at reducing maternal mortality (Bultery, Fowler, Shaffer, Tih, Greenberg, Karita, Coovadia, & De Cook, 2002). Although the investment in training traditional birth attendants has not yielded a notable improvement in the outcomes for women and their babies, the fact remains that these attendants speak the local languages, allow traditional birth practices and often have the trust and respect of the community, as observed in the present study. Bultery et al (2002) observe that providing highly skilled health professionals for all deliveries in poor communities remains a long-term goal. In the interim, an immediate solution is to identify, support and train birth attendants who are already in the business of childbirth (Bultery et al., 2002; Lech

&Mngadi, 2005). Similarly, as noted by Roost, Johnsdotter, Liljestrand and Essen (2004), recent studies of the rapid decline in the maternal mortality rate in Malaysia show how increased training of skilled birth attendants with the cooperation of traditional birth attendants can bring significant success in a maternal health programme. Although training of TBAs has been questioned by studies showing no decline in incidence of maternal mortality, a study from Guatemala has shown that such training can indeed increase the number of referrals to hospitals (Roost et al., 2004). However, Roost et al (2004) acknowledged increased risk related to the conduct of dangerous procedures and delays in referral caused by overconfidence gained through training. This has been an argument against training traditional birth attendants. It is the position of the World Bank (2005) that TBAs, whether trained or not, should be excluded from the category of skilled health workers. Given the wide acceptance of traditional birth attendants in the study communities, however, there appears a clear need to train them and to promote their integration and monitoring by existing services, such as those of midwives in the rural communities.

IMPLICATIONS FOR PRACTICE

It is evident that many of the women participating in this study, including the traditional birth attendants, had limited exposure to information, resulting in ignorance of good health practices during pregnancy and childbirth. For example, obstructed labour was believed to be caused by a woman's infidelity and obstetric complications were interpreted as acts of God or attributed to the influence of wicked people. Since pregnancy and childbirth were shrouded in mystery, the patronage of traditional birth attendants, who were believed to possess supernatural powers, was preferred to orthodox health care. The TBAs were found not only to provide maternity care but also to treat ailments including infertility. The use of orthodox health facilities was considered the last option when all others had failed.

Based on these findings, it appears to me that ignoring the traditional birth attendants with their wide acceptance in the communities would mean that maternal deaths would continue to rise, since the practices of the TBAs are likely to be sustained for a long time in rural communities. I recommend that the TBAs should be closely monitored and their practices supervised by the midwives in the health centres until a time community midwifery is well developed and accessibility of maternal health services within the communities with adequate skilled attendants, along with well-equipped obstetric emergency care. In addition, there is need for effective partnership between community- based institutions and facility- based health providers.

Consequently, there is need to train the traditional birth attendants in the communities in safe motherhood, high risk indicators and prompt referral to hospital. The activities of the TBAs should be closely monitored and supervised by midwives in the communities who have the necessary support for effective functioning. These are temporary measures until a time when maternal health facilities are fully accepted and utilized in the communities.

A study of the use of maternal healthcare in Ethiopia indicated that education had an important impact on women's use of maternal health services (Mekonnen&Mekonnen, 2003). The authors suggest that improving women's educational opportunities may have a major impact on their utilization of maternal health services in the communities. However, they acknowledge that this as a long-term investment and suggest that maternal health programmes should target these groups of women (especially mothers-in-law and women of reproductive age) with genuine community participation especially in facility and service planning. This is to enable the women to express their needs, perceptions, problems and expectations.

Extensive community education is needed in all aspects of maternal care. Mothers may not deliberately choose the care of traditional birth attendants; rather the environment where they find themselves may to some extent limit their choices (Kyomuhendo, 2003).

The study results also show that women were being torn between cultural or traditional beliefs and the biomedical approach to health care, as well as being influenced by significant others in maternal health practices. Attention should be given to the provision of maternal healthcare services that are culturally acceptable, since most childbirth in the rural communities are attended by the traditional birth attendants.

CONCLUSION

The study highlights the significant role played during pregnancy and childbirth by the traditional birth attendants, whether working at home or in premises attached to the churches. These women are in total control of childbirths in the rural communities. Although evidence-based studies have shown that training of traditional birth attendants has not yielded positive results in the reduction of maternal mortality, there is still much need for skilled attendants during childbirth. This study also has found that a majority of childbirths in the rural communities are managed by the traditional birth attendants, despite the physical proximity of orthodox health centres. It is evident that home delivery with traditional birth attendants was preferred to hospital births. The universal provision of skilled birth attendants is not feasible at present. Therefore, in view of the relevance of the traditional birth attendants for now, their training, strict monitoring and supervision becomes the only option until a time when maternal health facilities are fully accepted and utilized in the communities. Similarly, the main outcome of this study is the realisation that for the goal MGD 5 to be attained in Nigeria, a more pragmatic approach must be adopted, with particular attention to the socio-cultural context of the people in the rural communities.

REFERENCES

Asghar, R. (1999). Obstetric complications and role of Traditional Birth Attendants in Developing Countries.*Journal of College of Physicians and Surgeons Pakistan,9,*55-57.

Baron, R. & Byrne, D. (2000).*Social psychology (9th ed),* Boston:Allyn and Bacon

Bergstrom, E. &Goodburn, E. (2001). The role of traditional birth attendants in the reduction of maternal mortality, *Studies in Health Services Organisation and Policy,17*, 77-96.

Brouwere, D., Tonglet, R. &Lerberghe, W. (1998). Strategies for reducing maternal mortality in developing countries: what can we learn from the history of the industrialized West? *Tropical Medicine and International Health,3(*10):771-782.

Bultery, M., Fowler, M., Shaffer, N., Tih, P., Greenberg, A., Karita, E., Coovadia, H. & De Cook, K. (2002). Role of traditional birth attendants in preventing perinatal transmission of HIV.*British Journal of Medicine*, *324,*222-225.

Caflish, A. (1987). *Prevention of Obstetric Mortality in high risk pregnancy:* In High risk mothers and newborns: detection, management and prevention, (eds. AR Omran, J Martin and B Hamza), Thun, Switzerland, OttVerlag, 311-20

Carlough, M. & McCall, M. (2005). Skilled birth attendance: What does it mean and how can it be measured? A clinical skills assessment of maternal and child health workers in Nepal, *International Journal of Gynaecology and Obstetrics,89,*200-208.

Davis, B. (2004). An Intervention Involving Traditional Birth Attendants in Pakistan, *The New England Journal of Medicine* (Website) Available from <http://content.njem.org/cgi/content/full/353/13/1417> [Accessed: 3rd May 2009].

Essien, A. (2005). *Religion and Reproductive Health in Nigeria: Series in Sociology of Religion*. Nigeria: African Heritage Publication.

Essien, D. (2006). Reduction of Maternal Mortality in AkwaIbom State. Nigeria,*AkwaIbom State Council for Health*

Essien, E., Shehu, D., Ikeh, A. and Juna, M. (1997). Community Loans Funds and Transportation Service for Obstetric Emergencies in Northern Nigeria, *International Journal of Gynaecology and Obstetrics*, *59,*237-244.

Estrada, R.A. (1983). *Training and Supervision of Traditional Birth Attendants at the Primary Health Care Centre Level.*New York, In Primary maternal and neonatal health: a global concern (eds). F Del Mondo, E Ines-Cuyegkeng and DM Aviado), Plenum, pp 483-493.

Goldsmith, J. (1990). *Childbirth Wisdom from the World's Oldest Societies*. Brookline: Mass, East West Health Books.

Graham, N., Bell, J. and Bullough (2001). Can skilled attendance at delivery reduce maternal mortality: *Studies in Health Services Organization and Policy,17* , 105.

Harrison, K. (1997). Maternal Mortality in Nigeria: The Real Issues, *African Journal of Reproductive Health*, *1***,** 7-13.

Hunt, S. & Symonds, A. (1995). *The Social Meaning of Midwifery,* Houndmills, Basingstoke, Hampshire: Macmillan Press Ltd.

Islam, M. & Yoshida, S. (2009). MDG 5: How close are we to success? *BJOG116* (Suppl. 1):2-5

Izugbara, C. &Ukwayi, J. (2004). An Intercept Study on Person Attending Traditional Birth Homes In Rural Southern Nigeria, *Culture, Health and Sexuality, 2,*101-114.

Kyomuhendo, G. (2003). Low Use of Rural Maternity Service in Uganda: Impact of Women's Status, Traditional Beliefs and Limited Resources, *Reproductive Health Matters, 11***,** 16-26.

Lech, M.M. &Mngadi, P.T. (2005). Swaziland's Traditional Birth Attendants Survey, *African Journal of Reproductive Health*, 9**,** 137-147.

Liamputtong, P., Yimyam, S., Parisunyakul, S. &Sansiriphun, N. (2003).Traditional beliefs about pregnancy and childbirth among women from Chiang Mai, Northern Thailand, *Midwifery, 21***,** 139-153.

Lule, E., Oomman, N., Epp, J. &Ramana, G. (2003). Achieving the Millennium Development Goal of Improving Maternal Health: Determinant, Interventions and Challenges, Washington DC, *World Bank Health, Nutrition and Population Discussion Paper*

Mangay-Maglacas, A. (1990). Traditional Birth Attendants, *In Health Care for Women and Children in Developing Countries,* Oakland: Third party Publishing, p, 609.

Mekonnen, Y. &Mekonnen, A. (2003). Factors influencing the use of maternal healthcare services in Ethiopia, *Journal of Health Population and Nutrition,21***,** 374-282.

Ministry of Economic Development (2005).AkwaIbom State Economic Empowerment and Development Strategy, Uyo, Nigeria, Ministry of Economic Development.

Namboze, J. (1985). *Maternal Health Services,* Ibadan: University Press Publications

Okafor, C.B. and Rizzuto, R.R. (1994).Women's health care providers' views of maternal practices and services in rural Nigeria, *Studies in Family Planning, 25,*353-361.

Ransom, E. and Yinger, N. (2002).Marking Pregnancy Safer, Overcoming Obstacles on the Pathway to Care, Washington DC: *Population Reference Bureau.*

Reproductive Health Studies (2003). Report on Intervention to Improve Women's Reproductive Health in AkwaIbom State, Nigeria, Uyo, Ministry of Health.

Roost, M., Johnsdotter, S., J. &Essien, B. (2004). A qualitative study of conception and attitudes regarding maternal mortality among traditional birth attendants in rural Guatemala, BJOG, *An International Journal of Obstetrics and Gynaecology,111***,** 1372-1377.

Sai, F. &Measham, D. (1992). Safe Motherhood Initiative: getting our priorities straight, *Lancet,339,*478-480.

Sibley, L., Sipe, T. &Koblinsky, M. (2004). Does Traditional Birth Attendant Training Increase Use of Antenatal Care? A Review of the Evidence, *J. Midwifery Women's Health, 49,*298-305.

UNICEF (2001). Maternal Care: End Decade Database: (Website) <http://www.childinfo.org/eddb/mat_mortal/index.htm, [Accessed: 3rd August, 2008).

Viegas, O.A., Singh, K. &Ratman, S.S. (1987). Antenatal care, when, where, how, and much, in high risk mothers and newborns: detection management and prevention: In O.A Viegas, K. Singh & S.S. Ratman (Ed.) Ottawa, Canada, Exposure of mothers and Newborns in a rural agricultural area.

WHO (1986). Maternal Mortality, helping women off the road to death, *WHO Chronicle, 40***,** 175-183, Geneva, WHO Publications.

WHO (1999).Reduction of Maternal Mortality, Geneva, Switzerland, A joint WHO/UNFPA/UNICEF/WORLD BANK Statement, WHO Publications.

WHO, UNICEF, UNFPA & World Bank (2005). Road Map for Accelerating the Attainment of the MDGs Related to Maternal and Newborn Health in Africa, Geneva, World Health Organization.

Yayla, M. (2003). Maternal Mortality in Developing Countries, *Journal of Perinatal Medicine, 31***,** 386-391.

Yalinkaya, A., Ozcan, Y., Kaya, Z., Savas, Z. &Eredemoglu, M. (2008). Maternal Mortality Rate in the University Hospital, *Journal ofPerinatal Medicine,16*(1): 9-13.

Ziraba, A., Madise, N., Mill, S., Kyobutungi, C. &Ezeh, A. (2009). Maternal Mortality in the Informal Settlements of Nairobi City: What to do, *Reproductive Health, 6*: 1-6