

Original Article

Referrals, Maternal and Perinatal Indices In A Busy Maternity Unit In South-West Nigeria

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Summary

Many reasons and causes have been established as reasons why maternal deaths are high in these countries. There may be delays in seeking care, reaching care and in receiving the needed care. Hence a study to show the impact of referrals on maternal and fetal outcomes is of utmost importance. The study is a cross-sectional study that was conducted at the Lagos Island Maternity Hospital, which is the largest maternity hospital in Lagos state and it is situated in the central district of Lagos Island. A structured questionnaire was utilized to interview relatives of patients who were referred to the Lagos Island Maternity Hospital, over the one year period. Preeclampsia/Eclampsia was the commonest reason for referral (24%). The referred patients contributed 93% to the maternal mortality ratio and 99.2% to the perinatal mortality. A total of 650 relatives of patients were interviewed, during the study period. 47.2% of the patients presented after 2 hours. 44% of the patients received verbal referral. 49.5% of the patients were secondary referrals. Transportation and traffic challenges accounted for the commonest reason for delay, constituting 27.4%. The contribution of referred patients to the poor maternal and perinatal indices is quite high. The use of emergency response vehicles distributed in the referral centre is therefore advocated as a way of handling this challenge and improving overall maternal and perinatal indices.

Keywords: Maternal mortality, delay in care, emergency obstetric care

Introduction

Worldwide, the MMR decreased by approximately 44% over the past 25 years¹. Developing countries account for approximately 99% (302 000) of the global maternal deaths in 2015, with sub-Saharan Africa alone accounting for roughly 66% (201 000)¹. Nigeria and India are estimated to account for over one third of all maternal deaths worldwide in 2015, with an approximate 58 000 maternal deaths (19%) and 45 000 maternal deaths (15%)¹. Many reasons

and causes have been established as reasons why maternal deaths are high in these countries. There may be delays in seeking care, reaching care and in receiving the needed care. That is why referrals in obstetrics care are so important. The referral system is a vital section of district health systems and it is above all essential in pregnancy care and childbirth for providing access to emergency obstetric care as well as for backing up antenatal and delivery care in first line facilities². An effective referral

system is considered to be an essential part of successful Safe Motherhood programmes³. The referral trends seen at referral hospitals in developing countries, shows that the actual use of a referral system for obstetric care is inversely related to professional needs assessment, self-referrals constituting more than 50%, institutional referral around 30% and emergency referral less than 5% of women at referral level². It is suggested that many healthcare systems in developing countries are failing to improve women's rapid access to emergency obstetric care, and that the poor and marginalised are affected disproportionately⁴. Questions as to whether referrals are effective and timely prompted this study. The Objectives of this study are to determine factors that influence delay from the referring centre to the referral centre, the contribution of referred patients to the maternal and perinatal indices and to ascertain the methods of referral from the referring centre.

Methods

Study design: It is a cross-sectional study that was conducted at the Lagos Island Maternity Hospital, which is the largest maternity hospital in Lagos state and it is situated in the central district of Lagos Island.

Study population: A total 650 relatives who consented to participate between October 2012 – September 2013 were interviewed.

Data Collection: A structured questionnaire was utilized to interview relatives of patients who were referred to

the Lagos Island Maternity Hospital, over the one year period. Relevant data was also extracted from the referral letter and case files of the patient with the aid of the questionnaire.

Ethical Issue: Ethical approval was obtained from the ethical review board of the Lagos Island Maternity hospital.

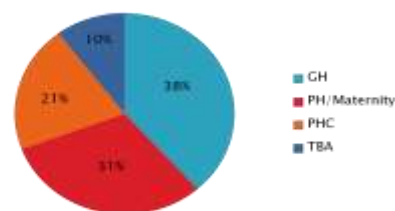
Results

A total of 650 relatives of patients were interviewed, during the study period. 47.24% of the patients presented after 2 hours (n=307). 44% of the patients received verbal referral (n=286). 49.45% of the patients were secondary referrals (n=321).

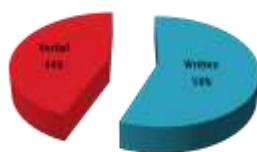
Table 1: Time interval from centre to LIMH

Duration of Referral (Hours)	Frequency (%)
1-2	96(52.7)
3-4	35(19.2)
5-6	7(3.8)
>6	22(12.1)
Unknown	22(12.1)

Referral Pattern in Last Quarter in LIMH 2012

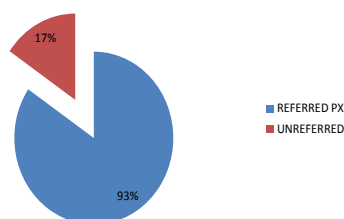


Use of Referral Letter



Transportation and traffic challenges accounted for the commonest reason for delay, constituting 27.4%. (n=179). Finance caused delay in 7.14% of the patients (n=46). The time of the referral was not stated in 76.92% of the patients (n=500). In 61.66% of the patients, the treatment offered was not stated (n=400). 51% of the referrals, came from medical doctors (n=332). 45 different diagnosis was made from the referring centre. Preeclampsia/Eclampsia was the commonest reason for referral (24%,n=156). Contribution to maternal and perinatal mortality ratio was 3% and 99.19% respectively.

DISTRIBUTION OF MATERNAL MORTALITY



Discussion

In the study majority of maternal mortalities were from referred patients. Amongst referred patients it was noted that delay in getting to the referred hospital was a major problem getting

access to the recommended care on time. Verbal referrals were issues to a significant number of the patients. It was observed that Preeclampsia/eclampsia was the commonest reason for referral. Cho et al opined that in order to meet the special needs of pregnant women and improve the opportunities to intervene during pregnancy, there is a need to research into treatment barriers that are specific to referral systems⁵. In a developed country primary care midwives would provide care to low-risk women and refer to obstetricians if risks or complications occur⁶. This is what it should be in the low and middle income countries, but due to various factors, delay may occur in getting professional care. Identifying the determinants for the use of obstetric care at referral centres is key to the improvement of care and the reduction of maternal mortality in low and middle income countries. Some determinants found in some studies include distance, cost, perceived quality of obstetric care, health workers attitude and respect for women's social needs, perceived aetiology of complications and socio-cultural preferences^{2,7}. In some studies financial constraints were found to be a major factor for lack of compliance and demographic risks as a major reason for referral^{7,8}. This was also mirrored in this study as financial constraints accounted for the second highest reason for delay in referral, with transportation challenges accounting for the commonest reason for delay in referral. Pre-eclampsia/ eclampsia accounted for the major indication for referral. This is not unexpected as Hypertensive disease in pregnancy is a major contributor to

maternal mortality in Nigeria. Hypertensive disease in pregnancy also accounts for preterm deliveries. Many of the centres don't have facilities for neonatal care, hence the need to refer many of these cases. In some other climes, haemorrhage is the main reason for referral⁹.

Studies have been done to examine ways to improve the use of the referral system especially in developing countries where most patients depend on their own resources to implement referrals given to them at the health facilities. In some of these studies through developing community based referral and counter referral system there was an increase in postnatal visits and hospital deliveries but no change in antenatal care¹⁰.

An increase in health workers escorting referrals to the appropriate receiving facility; greater use of referral slips and calling ahead to alert receiving facilities had a higher feedback rate and there was decrease in the dependence on taxis in favour of national or facility ambulances/vehicles¹¹. Revision and upgrading of the systems should go hand in hand with quality improvement of antenatal care programmes, which should include the training of all those involved in the care and management of pregnant women.

Referral training should have a multiple level approach, not just amongst health workers but with the TBA¹¹. Some studies have observed that formal training is not a requirement for improvement in referrals¹². Throughout history traditional birth attendants (TBAs) have been the main human resource for women during childbirth, their role varies across cultures

and at different times, but it has been observed that the impact of training TBAs on maternal mortality is low¹². Some other studies have noted that if referral services are accessible and functioning, trained nurse-midwife, and their TBAs in the community, may contribute to improving the referral system for maternal care¹³.

In order to solve the problems of referral in developing countries, it is essential to have a platform for problem solving that would develop a model that can be used worldwide. Developing essential obstetric care services and referral systems should be given more priority than formal training of health care worker in referrals². Decentralisation and a consistent policy towards maternal health issues after decentralisation, particularly the provision of sensitive services are essential for the continuum of care needed for effective referral¹⁴. The long-term objective should be to establish an operational referral system for emergencies and elective referrals as part of the district health system². Clinical research is required to determine how maternity referral fits within new-born health priorities and where the needs are different⁴.

Conclusion

The contribution of referred patients to the poor maternal and perinatal indices is quite high. There are a large number of referred patients amongst the maternal mortalities. Type 2 delay appears to be responsible with difficulties encountered with referrals. The use of emergency response vehicles distributed in the referral centre is therefore advocated as

a way of handling this challenge and improving overall maternal and peri-natal indices.

References

1. Organization WH, UNICEF, Activities UNFFP. Trends in Maternal Mortality: 1990 to 2015: WHO, UNICEF, UNFPA, and The World Bank estimates: World Health Organization; 2015.
2. Jahn A, De Brouwere V. Referral in pregnancy and childbirth: concepts and strategies. *Safe motherhood strategies: a review of the evidence.* 2000.
3. Murray SF, Davies S, Phiri RK, Ahmed Y. Tools for monitoring the effectiveness of district maternity referral systems. *Health policy and planning.* 2001;16(4):353-61.
4. Murray SF, Pearson SC. Maternity referral systems in developing countries: current knowledge and future research needs. *Social Science & Medicine.* 2006;62(9):2205-15.
5. Cho YI, editor. Pregnant women's substance abuse treatment completion rates: Effects of referral sources and treatment settings. 143rd APHA Annual Meeting and Exposition (October 31-November 4, 2015); 2015: APHA.
6. Perdok H, Jans S, Verhoeven C, Dillen J, Mol BW, Jonge A. Intrapartum Referral from Primary to Secondary Care in The Netherlands: A Retrospective Cohort Study on Management of Labor and Outcomes. *Birth.* 2015;42(2):156-64.
7. Nwameme AU, Phillips JF, Adongo PB. Compliance with Emergency Obstetric Care Referrals Among Pregnant Women in an Urban Informal Settlement of Accra, Ghana. *Maternal and child health journal.* 2014;18(6):1403-12.
8. Pembe AB, Carlstedt A, Urassa DP, Lindmark G, Nyström L, Darj E. Effectiveness of maternal referral system in a rural setting: a case study from Rufiji district, Tanzania. *BMC health services research.* 2010;10(1):1.
9. Alisjahbana A, Williams C, Dharmayanti R, Hermawan D, Kwast B, Koblinsky M. An integrated village maternity service to improve referral patterns in a rural area in West-Java. *International Journal of Gynecology & Obstetrics.* 1995;48:S83-S94.
10. Mogere D, Kaseje D. Developing A Community Based Referral And Counter Referral System As A Strategy For Improving Antenatal, Postnatal Care Visits And Health Facility Delivery, Case Of Kisii County, Rural Kenya. *Value in Health.* 2014;17(3):A141.
11. Awoonor-Williams JK, Bailey PE, Yeji F, Adongo AE, Baffoe P, Williams A, et al. Conducting an audit to improve the facilitation of emergency maternal and newborn referral in northern Ghana. *Global public health.* 2015;10(9):1118-33.
12. Bergström S, Goodburn E. The role of traditional birth attendants in

the reduction of maternal mortality. Safe motherhood strategies: a review of the evidence. 2000.

13. Bisika T. The effectiveness of the TBA programme in reducing maternal mortality and morbidity in Malawi. 2008.

14. Mc Donagh M, Goodburn E. Maternal health and health sector reform: opportunities and challenges. Safe motherhood strategies: a review of the evidence. 2000.