A CROSS SECTIONAL STUDY OF THE REFERRAL STATUS OF EMERGENCY OBSTETRICS AND GYNECOLOGICAL PATIENTS IN A TERTIARY HOSPITAL OF NORTHWEST ETHIOPIA

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ABSTRACT

BACKGROUND: Referral is an important component of the hierarchical health care delivery system to ensure that all people receive appropriate care. Weak referral system is identified to be a major reason for the unacceptably high maternal mortality and morbidity in Ethiopia. However, there is limited information on the details of referral system in Ethiopia particularly in emergency obstetrics and gynecological patients.

OBJECTIVE: The objective of this study is to assess the status of referral compliance and referral components of emergency obstetrics and gynecological patients

METHODS: A hospital based cross sectional study was conducted by reviewing the referral letters and patients' charts of 426 emergency obstetric patients referred to Felege Hiwot Referral Hospital from January 1 to February 30, 2017 G.C.

RESULT: The standard referral letter was used only in 28.2% of the cases. More than two- third (70%) of the referrals were directly from primary health care units to tertiary hospital. The major reason (81.28%) for referral was for better investigation and/or management. Time of referral was included in only 5.2%, priority of the referral in 33.09%, vital signs in 38.7%, basic investigations in 43.2%, and the pre-referral managements in 47.7%. The most neglected component in this study was feedback written for only one case (0.23%).

CONCLUSION: This study showed a high rate of noncompliance; disparity in the components of referral letter and high rate of missing of the vital components of the referral letters. Improving the weak referral system as identified in this study can have strong impact to strengthen the existing hierarchical health care delivery system. This can strongly contribute to advance the delivery of appropriate health care, particularly the reduction of maternal mortality and morbidity.

KEY WORDS: Emergency obstetrics referral, referral system, referral letter

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INTRODUCTION

Health care delivery system is one of the major determinants of the level of health in the society. The ideal health care delivery system should be able to provide both the type and options of care to meet the needs of people at all levels of society. In the hierarchy health care delivery system where health care facility differs both in the level of care and the level of experts, an effective referral system is an important part in ensuring that people receive appropriate care. It is of particular importance for the lower socio-economic strata1. Successful referral systems must include: an adequately resourced referral center; should be a two-way process that requires coordination and information exchange between referral levels and across sectors; formalized communication and transport arrangements; agreed setting-specific protocols for referrer and receiver; affordable service costs; the capacity to monitor effectiveness and a policy support[3].

Referral is a set of activities undertaken by a health care provider or facility in response to its inability to provide the quality and/or type of intervention suitable to the need of the patient[2]. To improve the health status of the nation, Ethiopia recently implemented Business Process Reengineering of the health sector. This has introduced a three-tier health care delivery system (hierarchical health care delivery system) connected to each other by a referral system[4]. Due to major national efforts in Ethiopia, MMR has declined, but the figure is still among the highest in the world. Weak referral system is one of the major reasons for the unacceptably very high MMR in this country[4].

Literature showed that referral is a problem everywhere but the problems are different in different parts of the world. Studies of referral system in the developed country focus on effectiveness, low rate referral and the abuse of the referral[5]. Few studies from resource poor countries focused on appropriateness of the referral6, Self-referral and its determinants[2,7,8], absence of referral sheet and referral feedback[7,9].

Generally, there are very few of the studies evaluate the referral sheet components and only few of them study specifically the emergency obstetrics and gynecology patients' referrals. The same is true regarding this issue in Ethiopia. More studies are crucially important to improve the quality referral system. The main objective of this study is to assess the status of the referral letters and referral compliance and aims to identify the potential area of intervention in the referral system.

METHODS AND MATERIALS

A hospital based cross sectional study was conducted by reviewing the referral letters and patients' charts from January 1, 2017 G.C to February 30, 2017 G.C. It was designed to provide a snapshot of the variables to see gaps and lapse of the referral system without manipulating the study population in any way. The study was done in Felege Hiwot Referral Hospital which is found in Bahir Dar city located 565 kilometers North West of Addis Ababa, the capital city of Ethiopia.

The sample size for this study was determined using single population proportion formula. Assuming a 50% estimated proportion of timely referral, at a 95% confidence level with 5% margin of error, a minimum sample size was found to be 426 including 10% for illegible referral letters. In the study period, there were a total of 1048 emergency obstetrics admissions and 174 emergency gynecologic admissions to the hospital; among these 189 women had antenatal care at least once in the hospital and 106 were without referral letter attached to the chart. The remaining 927 women were sample population from which the samples of 426 were taken by taking every other patient on the sample frame until sample size reached. All emergency obstetrics and gynecology patients referred to the hospital in the study period is an inclusion criterion and the exclusion criteria were patients who were managed in other departments, patients who came without referral letters and patients who were managed in cold outpatient department. The data were collected by trained data collectors using tested

data extraction sheet (checklist) which was prepared based on different literature review and using standard referral sheets and respecting patients' confidentiality. In addition, one supervisor was assigned for the general supervision of data collection and data entry. Data entry had been done daily following data collection. The collected data was checked for completeness, consistency and it was coded and entered into SPSS Version 16.0 and MS-Excel 2007. Descriptive statistical methods were used to summarize findings.

OPERATIONAL DEFINITIONS

- Correct diagnosis - Diagnosis was made based on their history and physical examination on the referral letter and according to national guidelines.
- Appropriate management - Management is according to the diagnosis and based on national guidelines.
- Referral sheet illegible - If it is difficult to read for data collectors (if so ask for help).
- Appropriate referral - It is a referral of women that were high risk who cannot be managed at the primary and secondary health care units.
- Vital sign included - At least two of the following components included in the referral sheet (blood pressure, temperature, respiratory rate, pulse rate, oxygen saturation.)
- Timely referral - If the referral done according to the national guideline and no delay model three.

RESULTS

As to the compliance to the referral system in this study, 82.1% (346) of referral letters were legible and easy to understand for immediate interventions but the standard referral letter were used only 28.2% (120) of the cases, the rest were referred with different format with different components. The other criterion of referral system compliance is the level of referring health facilities; In this study 30% (124) of the referrals were from primary and private hospitals, the remaining 70% (296) were directly from health centers and special maternity clinics (see figure-1), among these 29% (124) were from health centers and special maternity clinics inside Bahir Dar city and 41% (172) from health centers outside Bahir Dar city.

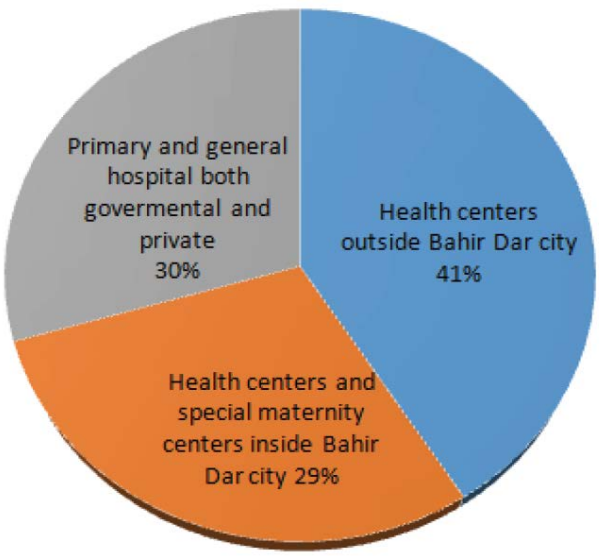

Figure-1:- Proportion for levels and locations of the referring health facilities to Felege Hiwot Referral Hospital from January 1, 2017 G.C to February 30, 2017 G.C.

Referral diagnosis were recorded in 94.8% (404) of the cases and Obstetrics cases were accounting 78.7% (318) and gynecologic were 21.3% (86). Abnormal labor was the most common pre-referral diagnosis accounts 20.8% (84), antepartum hemorrhage 12.9% (52), and hypertension disease in pregnancy 9.9% (40) of all cases (see figure-2). But when we assess the diagnosis included with their evaluations based on national guideline it was correct in 58.9% (251) of the cases.

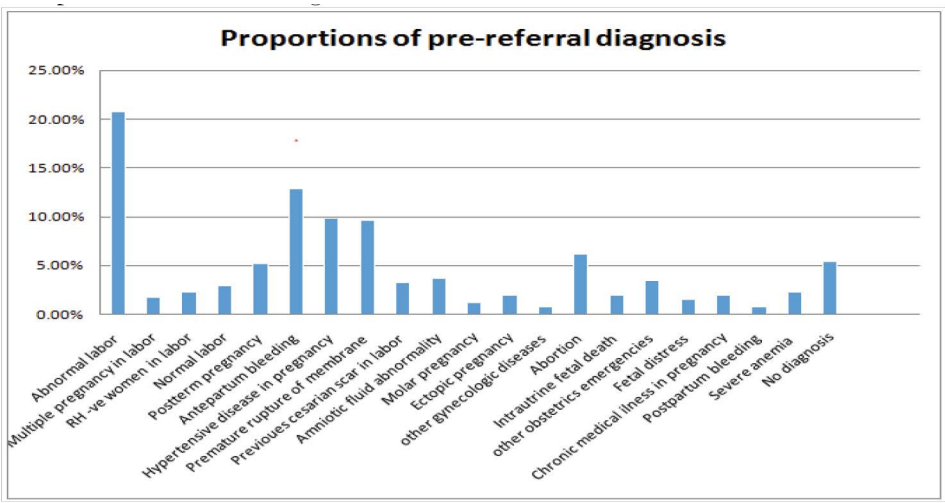

Figure-2: Proportions of the pre-referral diagnoses to Felege Hiwot Referral Hospital from January 1, 2017 G.C to February 30, 2017 G.C.

Reasons for referral were included in 87.8% (374). Among the stated reasons for referral; for further/better management was stated in 55.3% (207), for further investigation and management was stated 25.9% (97), self-referral was stated in 6.1% (23) and others 12.9% (see table-1).

The stated pre-referral managements were appropriate in 43.2% (184) of the time and the overall referrals were found to be timely in about 60.8% (259) of the cases otherwise delayed. Maternal complications of different levels of severity were found at admission in 16.3% (69) of the referred cases and fetal complications were found in about 9.4% (40). Non reassuring fetal heart rate pattern were found in 1.5% (5) and IUFD 2% (8) of the referred women in labor.

Referral details

Referral details are vital parts of referral letter that describe the referral and serves to trace information back to the referring clinicians or institutions which in this study includes name of referring health facility, which were recorded in 98.6% (420) of the cases, date of referral were recorded in 94.6% (403) of the cases, time of referral recorded in 5.2% (22) of the cases, priority of the referral (urgent/emergent) were written in 33.09% (141) of the cases, whereas phone number of the referring health facility were recorded in 15.72% (67) of referrals

Referral destinations were included in 76.99% (328) of the cases. Full name and signature of the referrer were recorded in 82.2% (350) of the cases, phone numbers of the referrers were written in 3.99% (17) of the referred cases (see figure-3).

Table:1 Proportions of reasons for referral among those referred with recorded referral reason to Felege Hiwot Referral Hospital from January 1, 2017 G.C to February 30, 2017 G.C.

No.	Reason for referral	Proportion % (n)
1.	For further/ better managements	55.34% (207)
2.	For further investigation and managements	25.93% (97)
3.	Self referral	6.15% (23)
4.	For neonatal ICU	4.01% (15)
5.	For better evaluation	3.47% (13)
6.	No bed for delivery	2.67% (10)
7.	For financial reason	2.14% (8)
8.	No light to do cesarean section	0.27% (1)

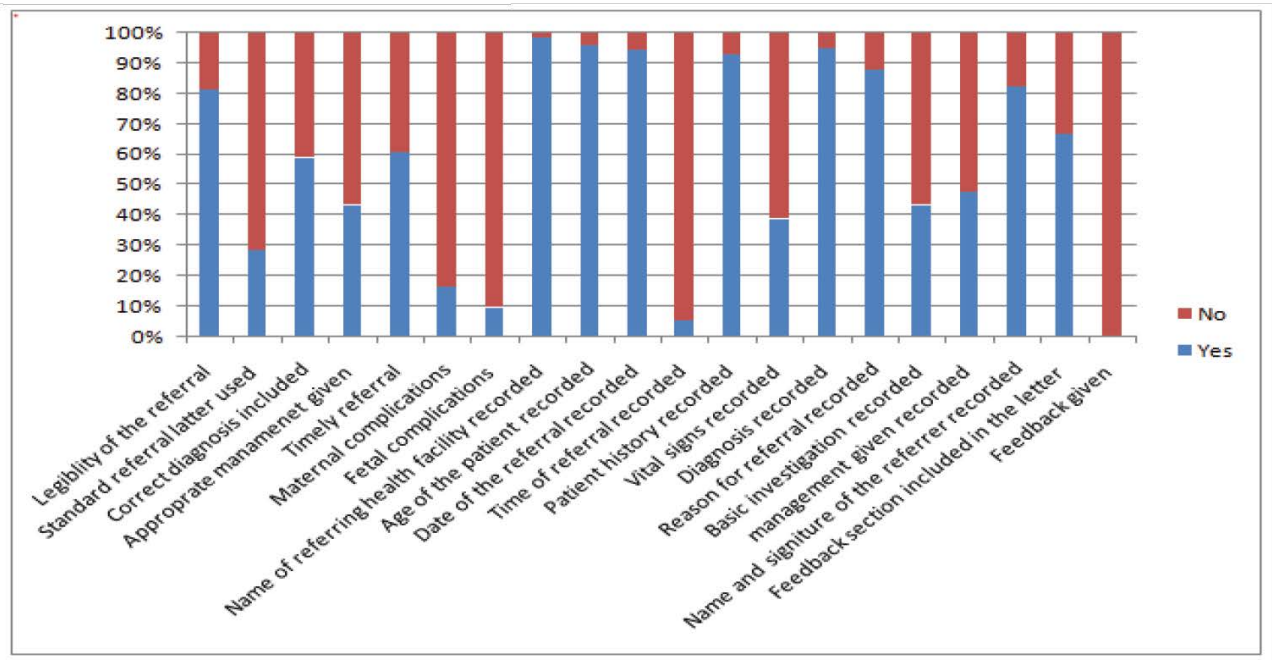

Figure-3: - Proportions of components of referral letters and compliances with the referral system of cases referred to Felege Hiwot Referral Hospital from January 1, 2017 G.C to February 30, 2017 G.C.

Patient details and clinical information

Patient details are parts of referral letter that contain patient's identification data. It includes Patient's full name which were recorded in 100% (426) of the cases, age of the patient found in 96.2% (410), Next of kin or mobile/ telephone numbers of the patient or next of kin was not a part of any referral letters. Whereas clinical information is part of the referral letter which gives brief but pertinent information about the referred case. It includes brief history and physical examinations which were recorded in 93% (396), vital signs immediately before the referral which were recorded in 38.7% (165) of the referred cases. Basic investigation was reported in 43.2% (184) of the cases where as the management given were found in 47.7% (203) of the referrals (see figure-3).

FEEDBACK SECTION FOR RECEIVING FACILITY

Feedback section is a part of the standard referral letters that contain the patient details, final diagnosis, management given, course of the patient, recommendations and follow up plan. In this study feedback as a component of the referral letters was included in 66.90% (285) of the referral letters, the remaining 33.09% (141) of cases had no place for feedback. However, feedback was written back for only one case (0.23%).

DISCUSSION

Compliance with the referral system

The study assessed the compliance with the referral system using different variables and non-compliances were seen in most of the variables. The standard referral letter was used only in 28.2% of the cases. This is comparable with the result found in multicenter study in Amhara region, Ethiopia (2012) where that standard referral slips were used for only 19% of the cases[11]. Unlike previous studies from Japan and Honduras where the standard letter was used in 70-80% at the Hospital level and 60% at health centers5, this study identified majority of patients (71.8%) referred with letters of different format with different components. The use of standard letter helps to avoid missing of important information for the transferred patients. A previous study from Denmark clearly described that, lack of adequate data makes the management at a specialty level difficult if not impossible. As a result, patients cannot be assured of timely access to services[12].

As far as the level of referring health facilities is concerned 70% (296) were directly from health centers and special maternity centers, among these 29% (124) were facilities located inside Bahir Dar city (see figure-1). This shows that majority of the patients seen in the tertiary hospital could have been managed at lower level of health care facilities. Almost similar result was found from the study done in South Africa (2008) where 57% of women inappropriately delivered at hospital level of care[13]. This may be an evidence of inappropriate use of human and other resources contributing to poor quality of health services. Delay to receive appropriate care is one of the major reasons to the high level of maternal mortality and morbidity in Ethiopia.

The rate of self-referral in this study is 6.15%, which is lower than previous studies from western Ethiopia 82%[8], Nigeria 92.9%[14], Tanzania 72.5%[7] and Kenya 27.7%[2]. The exclusion of patients without referral letters and those who had follow-up in the hospital can explain the low rate of self-referral in this study.

In this study, the pre-referral diagnosis was recorded in 94.8% (404) which is higher than what was found in the study done in South Africa 26%[13]. The commonest pre-referral diagnoses were abnormal labor 21% (84), antepartum bleeding 13% (52) and hypertension disease in pregnacy 10% (40), premature rupture of membrane 9.65% (39) of the cases (see figure-2). This was similar to previous multicentric report from 71 health centers in Amhara, Oromiya, SNNPR, and Tigray which found that, bleeding 38%, prolonged labor 30%, abnormal presentation 13%, retained placenta 9% and hypertensive disease of pregnancy 5%[11] were the commonest pre-referral diagnoses. Hence, these clinical conditions need to be given attention to improve the quality of health care delivery system.

COMPONENTS OF THE REFERRAL LETTERS

This study shows the common components of most referral letters included in more than 80% of the cases. These were (see figure-3) the names of referring facilities, date of referral, patient's full name, age of the patient, sex of the patient, brief history and physical examinations, pre-referral diagnoses, reasons for referral, name and signature of the referrer. Almost similar results were found in a cross-sectional study in Iran. In this study patients name were recorded in100%, descriptions of the chief compliant and associated symptoms were recorded in 86.5%- 92.3%. Nevertheless, reasons for referral were recorded in 71.1%, pre-referral diagnosis or clinical impressions were recorded in 53.3% of the cases which is lower than our findings[15]. Otherwise, there is a rarity of literatures in developing countries to compare the components of the letters.

However, there are vital components which were missed in most of the referral letters. These include the time of referral which were found only in 5.2% (22), the referrer mobile/phone number were recorded only in 3.99% (17), priority of the referral (urgent/ emergent) was written in 33.09% (141) of the cases, phone number of the referring health facility were recorded in 15.72% (67), vital signs of the patient immediately before the referral were recorded only in 38.7% (165), basic investigation were reported in 43.2% (184), whereas the management given were found in 47.7% (203) of the referrals. Name of next of kin or mobile/ telephone number of the patient or their next of kin was not a part of any referral. The above components are very important in patient's management but neglected in more than two third of the cases. Comparable results were found in the study done in Iran (2017) relevant clinical physical finding were recorded in 55.7%, up to date investigations were recorded in 35.5%[15]. Studies done in Africa showed that those patients who did not get laboratory investigations and those who did not get drug prescriptions were more likely to self-refer or by pass the referral system than those who obtained laboratory investigations and drugs[2,8]. The alarming very high rate of the missing of the above vital components of the referral system shows the need for improvement in the referral system to strengthen the hierarchical health care delivery system in Ethiopia.

Receiving feedback or information about the referred patient from the receiving facility is one characteristic of a good referral system and has several functions[11].

The referral is said to be complete when feedback was sent to the referring facility. In this study feedback as a component of the referral letter was included in only 66.90% of the cases. Failure to write feedback was the most neglected component of the referral system which was not done in nearly all cases. Only one health institution received feedback in our study. The level of neglect in this area can be clearly understood when we compare to the national target of 80%[4]. The finding in this study also showed the deterioration of writing feedback as compared to a previous report from Amhara region which was 13%[11].

LIMITATIONS OF THE STUDY

The main limitation of this study was its methodology as a hospital-based referral study which focuses on the referral letters and the patients' outcome. But many other components should be assessed for accurate and complete evidences. The study also excludes those who did not have referral letters and those who had follow up in the hospital but in reality, they should be compliant with the referral system.

STRENGTH OF THE STUDY

The study was able to identify a lot of important and specific gaps in the referral compliance and referral letter components. In addition, the study was conducted within short period of time with very low cost.

CONCLUSIONS

Assessment of the referral letter components can give a lot of evidences about referral system statues. In this study high level of disparities were seen in the proportion of referral letter components. This study also shows that there was high rate of non-compliance in the referral system for different referral sheets being used by different health facilities, hierarchy of health care facilities were not respected, and feedback was totally neglected.

There are a lot of evidences which show limitations of knowledge, skills and/or resources among the referring health facilities for appropriate referrals. It was manifested through their incorrect diagnosis, inappropriate managements, inappropriate referrals, incomplete workup of the patients and lastly the fact that the majority of the referrals were for inappropriate reason.

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CONFLICT OF INTEREST

We don't have any conflict of interest to report.

ETHICAL ISSUE

Ethical approval was given from Bahirdar University, College of Medicine and Health Science, research and ethical review committee (ERC) and approval letter was found.

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REFERENCES

1. Sweeny B (1994) The Referral System', British Medical Journal, Vol. 309 pp. 1180-1181.
2. Wambui M. (2013), Determinants of self directed referral of patients at Kenyata National Hospital, Nairobi, Kenya; www.google.com.et.
3. Murray Sf, Pearson Sc. Maternity referral systems in developing countries: current knowledge and future research needs. Soc Sci Med, 2006; 62: 2205–2215.
4. Federal Ministry of Health. Health service Development program IV. Addis Ababa Ethiopia 2010.
5. Omaha, K., Melendez, V., Uehara, N. & Ohi, G. 1998. Study of a patient referral system in the Republic of Honduras. Health Policy Plan, 13, 433-445.
6. Sanders, D., Kravitz, J., Lewin, S. & Mckee, M. 1998. Zimbabwe's hospital referral system: does it work? Health Policy Plan, 34, 359-370.
7. Daudi O. Simba, referral pattern of patients received at the national referral hospital: challenges in low income countries; East African Journal of Public Health Volume 5 Number 1 April 2008.
8. Wolkite Olani Abdi, Waju Beyene Salgedo, Gebeyehu Tsega Nebeb. Magnitude and Determinants of Self-Referral of Patients at a General Hospital, Western Ethiopia. Science Journal of Clinical Medicine. Vol. 4, No. 5, 2015, pp. 86-92. doi: 10.11648/j.sjcm.20150405.12
9. Abrahaley T., improving referral feedback for patients transfer from other health facility among health care providers in Mearge hospital Tigray region northern Ethiopia, 2013 www.google.com.
10. Kim Cervantes, René Salgado, Misun Choi, and Henry D. Kalter. Rapid Assessment of Referral Care Systems: A Guide for Program Managers. Published by the Basic Support for Institutionalizing Child Survival Project (BASICS II) for the United States Agency for International Development. Arlington, Virginia, November 2003.
11. Emergency referral for pregnant women and newborns: A Rapid Community and Health System Assessment, JSI Research and Training Institute: The Last 10 Kilometers (L10K), June 2012, Addis Ababa.
12. Cannaby S, Wanscher CE, Pederson CD, Voss H. The cost benefit of electronic patient referrals in Denmark. ACCA and Medcom in collaboration with the European Commission Information Society Directorate General; 2004.
13. Mashisha M. assessment of referral at district hospital maternity unit South Africa, 2012, final report to school of public health, www.google.com .
14. Akande T. M.,Referral system in Nigeria. Annals of African Medicine Vol. 3, No. 3; 2004: 130 – 133.
15. Janati A., Amini A., Adham D., Naserias M., Assessing the quality of referral letters written by general practitioners: a cross-sectional study in rural Iran, Cad. Saúde Pública 2017; 33(2):e00043016.