

AN AUDIT OF OBSTETRICAL REFERRALS FROM DISTRICT LEVEL HOSPITALS TO TERTIARY LEVEL HOSPITALS OF KPK

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ABSTRACT

Objective: To identify the number and causes of obstetrical referrals from district level hospitals to tertiary care and factors influencing the referrals.

Methodology: This descriptive study took place in 2 district hospitals of Khyber Pukhtunkhwa (KP) namely, District Headquarter Hospital, Nowshera and Government Maternity Hospital, Peshawar. It was a 06 months study starting from January 2014 to June 2014. A referral register was kept to record the number of patients, and reasons for referral, to tertiary care during antenatal, intrapartum and postpartum period. Data was collected prospectively, by involved doctors or nurse on duty, responsible for transfer of patient. Number and reasons for transfer of patients were studied.

Results: Total number of OPD patients was 12718, in both hospitals. Among these total number obstetrical or booked patients were 7757(61%). Mean age of patient was found to be 27 (± 5 yrs). About 347 (4.47%) patients were referred to tertiary care. Of these referrals antenatal referrals comprised 216 (2.78%), intrapartum or during labor pains 108 (1.39%) and postpartum 23 (0.29%). Antenatal reasons for transfer of patient were found to be hypertensive disorders 55 (0.7%), anemia 42 (0.54%), medical disorders 29 (0.37%), trial of labor 27 (0.34%), preterm labor 24 (0.31%), self referrals 15 (0.19%), higher order pregnancy 13 (0.16%) and bad obstetrical history 11 (0.14%). Intrapartum reasons included antepartum hemorrhage 38 (0.49%), non – progressive labor 17 (0.22%), malpresentation 16 (0.20%), reduced fetal movements 16 (0.20%), fetal distress 13 (0.16%) and self referrals 08 (0.10%). Postpartum referrals comprised stabilization with blood transfusions i.e. 18 patients (0.23%), septicemia 03 (0.038%), and postpartum hemorrhage 02(0.025%).

Conclusion: A proper referral system is needed from district to tertiary care level hospitals. The value of a team work is demonstrated in inter -hospital transfer process.

Key Words: District hospital, Tertiary care hospital, Referral system

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INTRODUCTION

The district health system is the first provider of secondary care, focusing on maternal and child health. District hospitals are supposed to provide 24 hours emergency obstetric and neonatal care services as well as diagnostic services for assessment and investigation so that treatment plans for a patient can effectively work¹. Tertiary care is specialized consultative health care system, usually for inpatients and receives heavy referrals from a primary or secondary health care system. Advanced preventive, diagnostic and management facilities make it the last resort for helping patients. The health systems go hand in hand but unfortunately, lack

of skilled health professionals, diagnostic services and equipment in secondary health care and on the other hand workload on tertiary care, is leading to blaming environment in our setup, patients being the only sufferers. Tigga et al stressed the need of improving health systems in some states of india². In most cases obstetrical journey will progress smoothly but unfortunately in a significant number of women pregnancy is complicated by medical disorders and obstetrical complications, endangering the lives of both mother and baby. Secondary health care is thought to be a cheap and convenient place with one to one care, given by nursing staff and dais (traditional birth attendants). This has led to overcrowding of district hospitals which fac-

es difficulty in safe obstetrical practice, owing to large number of patients, lack of trained and skilled health workers and proper laboratory, blood bank and operation theatre facilities. Secondary health care system is supposed to provide 24 hours labor room service but unfortunately district hospitals do not enjoy all of the above mentioned facilities. Difficulty arises when a high risk mother is identified and considered for referral to tertiary care. It is well known that identifying the high risk case and timely referral reduces maternal mortality and morbidity, as shown in an Indonesian study that 92 % of maternal deaths occur from delays in referral and case management³.

The objective of this study was to identify the number and causes of obstetrical referrals from district level hospitals to tertiary care and factors influencing the referrals.

METHODOLOGY

This descriptive study took place in 2 district hospitals of Khyber Pukhtunkhaw (KPK) namely, District Headquarter Hospital, Nowshera and Government Maternity Hospital, Peshawar. It was a 6 months study starting from January 2014 to June 2014. A referral register was kept to record the number of patients, and reasons for referral, to tertiary care during antenatal intrapartum and postpartum period.. Data was collected prospectively, by involved doctors or nurse on duty. Main outcomes were number of patients transferred and reasons for transfer. Factors that influenced decision making were also noted

Reason of referral was defined on basis of referral letter for exhibiting reasons for transfer of patients.

Self referral was considered when patients wanted documented referral because of dissatisfaction towards health professional or facilities of district hospital.

RESULTS

In our 6 month study total No. of OPD patients were 12718, in both hospitals. These included general patients, gynecological complaints and obstetrical patients. Among these obstetrical or booked patients were 7757, comprising 61% of OPD patients (Table 1). These patients included primi gravida, multigravida and grand multigravida of different ages. Mean age of patient was found to be 27 (\pm 5 yrs). About 347 (4.47%) patients were referred to tertiary care for multidisciplinary team work (Table 2). The most common Antenatal reason for transfer of patient are shown in Table 3. Hypertensive disorders 55 (25.7%) included chronic uncontrolled hypertension and pre- eclampsia, needed workup and management. Pregnancy with anemia comprised 42 (19.62%) after 34 weeks gestation and medical disorders 29 (13.5%) that included diabetes type 2 or gesta-

tional diabetes, heart disease, thyroid disease, epilepsy, connective tissue disorders and malignancy. 27 (1 2.6%) were referred for trial of labor which included primi gravida with borderline pelvis, breech presentations, macrocosmic babies and previous scar with intention to reduce caesarian section rates. 24 (11.2%) patients were referred for preterm labor; neonatal intensive care facilities are not available at districts hospitals. Higher order pregnancy made 13 in number (6.07%) for transfer because of anticipated risks of prematurity, malpresentations, antepartum hemorrhage and postpartum hemorrhage. Patients opted for the centers where hematology, blood bank , operation theater and neonatal intensive care facilities were available under one roof. 11 (5.1%) had bad obstetrical history with repeated miscarriages, intrauterine deaths and abruption placenta self referral compromised.15 (7.0%) patients.. Intrapartum reasons for transferring a patient are shown in Table 4. Intrapartum reason were all emergency conditions where patients ended up in unforeseen complications of labor despite vigilant antenatal monitoring. Non availability of doctor, anesthetist, blood bank facilities and lack of proper fetal monitoring equipment explain the bases of intrapartum referrals. There were 23 (0.68%) patients who were referred to tertiary care for postpartum management. Most of them required blood transfusions i.e. 18 patients (0.53%), reasons were atonic uterus, ruptured uterus, genital tract tears and morbidly adherent placenta , after being managed at secondary care, followed by septicemia 03 (0.08%), and postpartum hemorrhage 02 (0.05%), Table 5.

DISCUSSION

Total number. of obstetrical booking was found to be 7757 in both hospitals, namely DHQ Nowshera and Government Maternity Hospital ,Peshawar, but the number of deliveries including caesarian section and vaginal deliveries were far less i.e., 3380 (43.5%). This was because many of the patients had alternate options for the place of delivery like private setups and government sector tertiary care hospitals giving multidisciplinary facilities, lady health visitors and even many prefer home deliveries with dais (traditional birth attendants). These trends have also been shown in Bangladeshi study where 14.7% of the babies were delivered at any medical facility, with 7.6% in private hospitals or clinics, and 7.1% in government hospitals^{4,5}. In our study number of referrals was found to be 347 (4.47%), which is closer to number of referrals found in study carried out in Brunei Darussalam by Htwe et al⁶, who found the prevalence of inter hospital transfer to be 3.65% and in Canada 6.4% by Rourke and Kennard⁷. However 24.6% of obstetrical patients were found referred to tertiary care in a study carried out in Tanzania⁸ which is very high as compared to our study.

During antenatal follow up 216 (2.78%) high risk patients were identified and referred to tertiary care. Majority had hypertensive disorder 55 (25.7%) including chronic uncontrolled hypertension and pre-eclampsia, pregnancy with anemia comprised 42 (19.62%) who had Hb% of less than 8 gm after 34 weeks of gestation, medical disorders 29 (13.5%) included diabetes type 1 and 2 or gestational diabetes, heart disease, thyroid disease, epilepsy, connective tissue disorders and malig-

nancy. 27 (12.6%) were referred for trial of labor which included primi gravida with borderline pelvis, Breech presentations, macrocosmic babies and previous scar with intention to reduce caesarian section rates. These patients required intensive and vigilant monitoring in terms of mother and fetus, which was not possible because of lack of equipment and skilled and trained staff at secondary care^{9,10,11}. 24 (11.2%) patients were referred for preterm labor; as neonatal intensive care facilities

Table 1: Total no. Of OPD, antenatal booking and No. of deliveries

	No. of OPD	Antenatal booking	No. of deliveries
DHQ Nowshehra	6718	4000	1328
GMH Peshawar	6000	3757	2052
Total No.	12718	7757	3380

Table 2: Number and percentage of referred cases

	Total No. of referrals	Antenatal	Intrapartum	Postnatal
DHQ Nowshehra	186 (2.40%)	116 (1.49%)	60 (0.77%)	10 (0.13%)
GMH Peshawar	161 (2.07%)	100 (1.29%)	48 (0.62%)	13 (0.16%)
Total referrals	347 (4.47%)	216 (2.78%)	108 (1.39%)	23 (0.29%)

Table 3: Reasons for antenatal referral

Antenatal Referral	Hyper-tensive disorders of pregnancy	Pregnancy with anaemia	Medical disorders	Trial of labor	Preterm labor	Self referral	Higher order pregnancy	Bad obstetrical history
DHQ Nowshehra	25 (0.32%)	22 (0.28%)	13 (0.17%)	17 (0.22%)	16 (0.20%)	08 (0.11%)	09 (0.12%)	06 (0.77%)
GMH Peshawar	30 (0.38%)	20 (0.26%)	16 (0.20%)	10 (0.12%)	08 (0.11%)	07 (0.08%)	04 (0.04%)	05 (0.63%)
Total No.	55 (0.7%)	42 (0.54%)	29 (0.37%)	27 (0.34%)	24 (0.31%)	15 (0.19%)	13 (0.16%)	11 (0.14%)

Table 4: Reasons for intrapartum referral

Intrapartum referrals	APH	Non progressive labor	Malpresentation	Reduce fetal movements	Fetal distress	Self referrals
DHQ Nowshehra	20 (0.25%)	10 (0.13%)	11 (0.14%)	07 (0.09%)	06 (0.07%)	06 (0.07%)
GMH	18 (0.24%)	07 (0.09%)	05 (0.06%)	09 (0.11%)	07 (0.09%)	02 (0.03%)
Total No.	38 (0.49%)	17 (0.22%)	16 (0.20%)	16 (0.20%)	13 (0.16%)	08 (0.10%)

Table 5: Reasons for postpartum referrals

Postpartum referrals	Blood transfusion requirements	Septicemia	Post partum hemorrhage
DHQ nowshehra	10 (0.13%)	(0%)	(0%)
GMH	08 (0.10%)	03 (0.038%)	02 (0.025%)
Total No.	18 (0.23%)	03 (0.038%)	02 (0.025%)

were not available at districts hospitals. Higher order pregnancy made 13 in number (6.07%) for transfer 11 (5.1%) had bad obstetrical history with repeated miscarriages, intrauterine deaths and abruption placenta. They needed workup and multidisciplinary management. 15 (7.0%) patients referred themselves on their own wish because of social and personal reasons.

In our combine study it was found that most of the patients were referred during intapartum period i.e. 108(3.1%) followed by antennal. 216 (2.7%) and postpartum period 23 (0.68%). This stresses on the fact that despite vigilant antenatal monitoring some of unforeseen obstetrical complications do persists in intrapartum period, which suggest that skilled and trained health workers and team are needed in a maternity unit along with proper equipment to combat neonatal and maternal morbidity and mortality. These deficient services were responsible for high perinatal mortality rate at Abbasi Shaheed Hospital Karachi¹². According to Australian commission on safety and quality in health care the most common reason for inter hospital transfer was APH, Hypertensive disorders and fetal immaturity¹³. For a safe maternity care its quality should be improved by improving the consistency in team work at district hospital level. The team includes laboratory, blood bank and high dependency units, skilled health care providers and consultants 24 hours available. Lack of a team work and facilities at district level resulted in transfer of patients in our study.

Total of 23 (0.68%) patients were referred after delivery i.e. postpartum. Majority 18 (0.53%) included those who needed stabilization with blood and blood products and intensive care units. These patients included postpartum hemorrhage due to atonic uterus, ruptured uterus, genital tract tears and morbidly adherent placenta. These were managed at hospital and after concerning with hospital to be referred were transferred in ambulance along with nursing staff. 03 (0.08%) were referred for septicemia, followed by 02 (0.05%) with primary postpartum hemorrhage reason being non availability of skilled and trained obstetrician. Simba et al showed 96.3% clinicians in-charge for referring patients found lack of expertise and lack of equipments as a reason for patient transfer to MNH (Tanzania) where about half of the facilities reported lack of drugs (53.8%) and space (50.0%). Lack of affordability (40.0%) was predominantly cited by private facilities⁸.

In addition our study identified some factors, influencing the transfer of patient. Utmost important was the medium of transport. Hospital ambulance was used as resource for transferring patient accompanied by referral letter and a nursing staff or Dai. In some cases private ambulance was arranged as hospital ambulance was not functioning. Ambulance only served as transport vehicle because ambulance equipment was

out of order. Dilpreet kaur et al also suggested that good communication and improving the transfer and transporting services between secondary and tertiary care can improve the patient safety and maternal and neonatal outcome¹⁴. Transfer of patient required ample counseling and communication with patient and family, to tertiary care so as to allay the fear of large hospital with loads of patients. Patients also feared the rough attitudes of health care providers who are already burdened by number of patients and complications they deal with¹⁵. Our study at district hospitals revealed the importance of a team work. Proper antenatal care, vigilant intrapartum maternal and fetal monitoring and postpartum timely identification of complications is needed for good perinatal outcome^{8,10}.

CONCLUSIONS

In our combine study it was found that most of the patients were referred during intapartum period i.e. 108(3.1%) followed by antennal. 216 (2.7%) and postpartum period 23 (0.68%).

RECOMMENDATIONS

Secondary level care for obstetrics should be provided with all the facilities of laboratory and blood bank, operation theatres, high dependency unit, and the physical presence of trained and skilled health care providers. There is a need of acceptance of the fact that tertiary care is the only place where high risk patients can be referred. Regular meetings between district level consultants and tertiary level consultants with exchange of statistics and case discussions on referred patients can help in producing referral guidelines, strengthening and reforming the referral system, thus reducing the apprehensions associated with transfer of patients.

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CONTRIBUTORS

SS conceived the idea, planned the study, and drafted the manuscript. SB helped acquisition of data and did statistical analysis. All authors contributed significantly to the submitted manuscript.