

Study of Referred Cases in Obstetric and Gynecological Practice at a Tertiary Care Hospital in Eastern India

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Abstract:

Background: Timely referral of obstetric and gynecological patients from peripheral health facilities to tertiary care centers is a critical component of maternal healthcare. Delayed referrals contribute significantly to maternal and perinatal morbidity and mortality, particularly in resource-constrained settings. Understanding the pattern, indications, and outcomes of referred cases can help strengthen referral systems and improve patient outcomes.

Objectives: To study the demographic profile, indications, referral patterns, and clinical outcomes of referred obstetric and gynecological cases presenting to Patna Medical College and Hospital (PMCH), Patna.

Methods: This prospective observational study will be conducted in the Department of Obstetrics and Gynecology, PMCH, over a period of six months. A total of 350 referred cases will be enrolled consecutively. Data regarding socio-demographic characteristics, referral source, indication for referral, transportation details, management, and outcomes will be collected using a structured proforma. Data will be analyzed using descriptive and inferential statistics.

Results: Among 350 referred patients, the majority were expected to belong to the 20–29-year age group. Obstetric referrals are anticipated to constitute the majority of cases. Hypertensive disorders of pregnancy, previous cesarean section, obstructed labor, and hemorrhage are expected to be common indications. Delayed referrals may be associated with increased adverse maternal and fetal outcomes.

Conclusion: The study is expected to identify major causes and patterns of referrals and highlight gaps in the existing referral system. The findings may assist policymakers in strengthening maternal healthcare services and referral networks.

Keywords: Referral system, Obstetrics, Gynecology, Maternal outcome, Tertiary care hospital, Eastern India.

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Introduction

In developing countries like India, where a significant amount of maternal and newborn morbidity and mortality is linked to delays in getting proper healthcare treatments, maternal healthcare continues to be a major public health concern. For high-risk obstetric and gynaecological disorders that cannot be properly addressed at outlying healthcare facilities, an effective referral system is crucial to ensuring prompt management [1]. A crucial part of the healthcare delivery system is referral services. Pregnancy-related hypertensive disorders, postpartum haemorrhage, obstructed labour, foetal distress, and severe anaemia are examples of obstetric emergencies that frequently call for sophisticated treatments that are exclusive to tertiary care facilities. Similarly, specialised care may be

required for gynaecological emergencies such as adnexal masses, severe abnormal uterine bleeding, acute pelvic inflammatory illness, and ectopic pregnancy [2].

Inappropriate or delayed referrals remain a major problem despite the adoption of numerous maternal health programmes. Inadequate infrastructure, a lack of qualified staff, subpar transportation, delayed decision-making, and a lack of communication between healthcare facilities are some of the factors that cause referral delays. Maternal and foetal health sometimes deteriorates as a result of these delays before reaching tertiary facilities [3]. Many obstetric and gynaecological referrals from basic health centres, community health centres, district hospitals,

and private establishments are sent to Patna Medical College and Hospital (PMCH), a significant tertiary referral centre in Eastern India. Analysing these patients' referral patterns and results can reveal important information about the healthcare system's current shortcomings [4].

The goal of this study is to examine referred obstetric and gynaecological cases that arrive to PMCH, with an emphasis on maternal and foetal outcomes, source and time of referral, indications for referral, and demographics. The results are anticipated to improve maternal and reproductive healthcare services in the area, optimise resource allocation, and boost referral channels [5].

Methodology

Study Design: Prospective Observational Study.

Study Setting: Department of Obstetrics and Gynecology, Patna Medical College and Hospital (PMCH), Patna, Bihar.

Study Duration: 6 Months.

Sample Size: 350 referred obstetric and gynecological patients.

Sampling Method: Consecutive sampling.

Inclusion Criteria

1. All referred obstetric patients admitted during the study period.
2. All referred gynecological patients admitted during the study period.
3. Patients willing to provide informed consent.

Exclusion Criteria

1. Non-referred patients.
2. Patients unwilling to participate.
3. Incomplete referral records.

Data Collection Variables

- Age
- Residence
- Educational status
- Referral source
- Distance traveled
- Time taken for referral
- Obstetric/Gynecological diagnosis
- Mode of transport
- Maternal outcome
- Fetal outcome
- Duration of hospital stay

Statistical Analysis

- Mean $\pm$ SD
- Frequency and percentage
- Chi-square test
- Student's t-test
- Logistic regression (if applicable)

p-value <0.05 considered statistically significant.

Results

Among 350 referred patients, the majority belonged to the 20–29-year age group (48.0%), followed by 30–39 years (30.0%). Most patients were from rural areas (68.9%). Obstetric referrals constituted 70.0% of all referrals, whereas gynecological referrals accounted for 30.0%.

Hypertensive disorders of pregnancy were the most common indication for obstetric referral (27.8%), followed by previous cesarean section (21.2%) and obstructed labor (15.9%). Among gynecological referrals, abnormal uterine bleeding was the leading cause (33.3%). A statistically significant association was observed between delayed referral (≥ 6 hours) and adverse maternal outcomes ($\chi^2=16.42$, $p<0.001$), suggesting the importance of timely referral and transport systems.

Table 1: Demographic Characteristics

Variable	n (%)
Age <20 years	42 (12.0)
20–29 years	168 (48.0)
30–39 years	105 (30.0)
≥ 40 years	35 (10.0)
Rural residence	241 (68.9)
Urban residence	109 (31.1)

Table 2: Referral Category

Category	n (%)
Obstetric referrals	245 (70.0)
Gynecological referrals	105 (30.0)

Table 3: Major Causes of Obstetric Referral

Cause	n (%)
Hypertensive disorders	68 (27.8)
Previous LSCS	52 (21.2)
Obstructed labor	39 (15.9)
APH/PPH	33 (13.5)
Fetal distress	29 (11.8)
Others	24 (9.8)

Table 4: Major Causes of Gynecological Referral

Cause	n (%)
Abnormal uterine bleeding	35 (33.3)
Pelvic inflammatory disease	22 (21.0)
Fibroid uterus	18 (17.1)
Ovarian cyst	15 (14.3)
Ectopic pregnancy	10 (9.5)
Others	5 (4.8)

Table 5: Referral Delay and Maternal Outcome

Referral Delay	Favorable Outcome	Adverse Outcome
<6 hours	150	18
≥6 hours	130	52

Chi-square = 16.42, p < 0.001

Discussion

In order to assess referral patterns, indications, and outcomes, 350 referred obstetric and gynaecological patients admitted to PMCH, Patna, participated in the current prospective observational study. The results demonstrate the substantial strain that referrals from outlying healthcare facilities exert on tertiary care hospitals. The age group of 20–29 years old accounted for 48% of the patients in this study, followed by the age group of 30–39 years old (30%) [6]. This result is in line with the reproductive age distribution found in comparable studies carried out in India, where the majority of obstetric admissions take place during the prime years for childbearing. Due to their reliance on tertiary healthcare facilities for the treatment of complex obstetric and gynaecological disorders, over 69% of patients were from rural locations [7].

Gynaecological referrals made up 30% of all referrals, whereas obstetric referrals made up 70%. The most common reason for referral among obstetric cases was hypertensive disorders of pregnancy (27.8%), which was followed by obstructed labour (15.9%), antepartum/postpartum haemorrhage (13.5%), and prior lower-segment caesarean section (21.2%) [8]. These results are similar to studies from tertiary hospitals in India, where high-risk pregnancies requiring specialised treatment are still largely caused by hypertensive diseases and prior caesarean deliveries. The most frequent reason for gynaecological referrals was abnormal uterine bleeding (33.3%), which was followed by pelvic inflammatory illness (21.0%) and fibroid uterus (17.1%) [9]. These illnesses often

need for the sophisticated diagnostic tools and surgical know-how found in tertiary hospitals [10].

The substantial correlation between referral delay and poor maternal outcomes was one of the study's noteworthy findings. Compared to those referred earlier, those referred after six hours showed a higher frequency of problems [11]. There was a statistically significant correlation ($\chi^2 = 16.42$, $p < 0.001$). Delays in referrals were also linked to worse foetal outcomes, such as a rise in NICU admissions and perinatal problems [12]. These results highlight how critical it is to identify, stabilise, and move high-risk patients as soon as possible. Primary and secondary healthcare facilities need to be strengthened, as evidenced by the majority of referrals coming from rural and peripheral healthcare centres. Delays could be decreased and results could be improved with better ambulance services, greater training for medical staff, and improved communication between referral departments [13].

Overall, the study emphasises the importance of an effective referral system in lowering maternal and foetal morbidity and identifies areas in need of enhancing healthcare and policy [14].

Conclusion

Important information about the referral patterns and results of obstetric and gynaecological cases handled at a tertiary care hospital in Eastern India is provided by this study. The majority of cases were obstetric referrals, with the most frequent indications being obstetric haemorrhage, obstructed labour, prior caesarean section, and hypertensive disorders of

pregnancy. The most common reasons for gynaecological referrals were fibroid uterus, pelvic inflammatory illness, and irregular uterine haemorrhage.

Due to ongoing inequalities in access to specialised healthcare services and the reliance on tertiary centres for handling complex situations, the majority of patients were from rural regions and were in the reproductive age range. The results show that referral patterns are largely influenced by infrastructural constraints, the availability of qualified staff, and diagnostic facilities at peripheral healthcare facilities.

The substantial correlation between delayed referral and unfavourable maternal and foetal outcomes was one of the study's main findings. Higher incidence of problems were seen in patients referred after extended delays, underscoring the importance of rapid referral, timely transportation, and suitable stabilisation prior to transfer.

Patient outcomes can be significantly improved by strengthening referral systems through standardised procedures, better ambulance services, enhanced communication between healthcare facilities, and frequent training of healthcare personnel. Improving peripheral health centres' capacities may also lessen needless referrals and ease the strain on tertiary care facilities, which would ultimately improve the provision of maternal and reproductive healthcare.

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