Patient safety in maternal healthcare at secondary and tertiary level facilities in Delhi, India

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Abstract

Background: There is insufficient information on causes of unsafe care at facility levels in India. This study was conducted to understand the challenges in government hospitals in ensuring patient safety and to propose solutions to improve patient care.

Materials and Methods: Desk review, in-depth interviews, and focused group discussions were conducted between January and March 2014. Healthcare providers and nodal persons for patient safety in Gynecology and Obstetrics Departments of government health facilities from Delhi state of India were included. Data were analyzed using qualitative research methods and presented adopting the “health system approach.”

Results: The patient safety was a major concern among healthcare providers. The key challenges identified were scarcity of resources, overcrowding at health facilities, poor communications, patient handovers, delay in referrals, and the limited continuity of care. Systematic attention on the training of care providers involved in service delivery, prescription audits, peer reviews, facility level capacity building plan, additional financial resources, leadership by institutional heads and policy makers were suggested as possible solutions.

Conclusions: There is increasing awareness and understanding about challenges in patient safety. The available local information could be used for selection, designing, and implementation of measures to improve patient safety at facility levels. A systematic and sustained approach with attention on all functions of health systems could be beneficial. Patient safety could be used as an entry point to improve the quality of health care services in India.

Keywords: Health systems, patient safety, quality of healthcare, universal health coverage

Introduction

The availability or utilization of health services does not always guarantee better health outcomes and it requires safe delivery of quality health services. Unsafe care is a global challenge, which often leads to adverse events and poor treatment outcomes. The limited data from low- and middle-income countries reports wrong identification of patients, medication errors, misdiagnosis, etc., among the major causes of unsafe care. Patient safety is an important element of an effective and efficient healthcare and is one of the most referred components in quality of care.

Materials and Methods

Study setting

Delhi is a major urban agglomeration and the city state in India. The population of Delhi state was 16.8 million in 2011 with 97.5% urban population, 1483 km² geographical area and population density of 11,297 (range: 3800 to 37,346/km²). The health services in the state are provided...
by a number of agencies, and the city has good health infrastructure including bed population ratio, both in public and private sectors.\[6\]

**Study design**

The study was planned as qualitative research design with some quantitative data from desk review. The desk review of the available published and unpublished information on patient safety, in general, and in gynecology and obstetrics set-ups in specific, in India since the year 2000 was conducted. The desk review was followed by in-depth interviews (IDIs) and focused group discussions (FGDs) to triangulate the information.

**Study duration**

January to March 2014.

**Study participants**

The head of the departments or the nodal officers from the Departments/Units of Obstetrics and Gynecology in the identified hospitals participated in the discussion. The hospitals were purposively selected to represent all geographical areas in Delhi. These were restricted to secondary and tertiary care facilities as gynecology and obstetrics specialty usually exist at these levels only. The participants were grouped into two sets (hospitals with more than 500 bed capacity and those 500 or less bed capacity). Four of these 20 hospitals were either medical colleges or super-speciality facilities. Remaining 16 were secondary level referral centers or hospitals specialized in gynecology and obstetrics. This grouping was done to keep the FGD participants homogenous and to ensure that the representatives from the larger health facilities not trying to over-emphasize their experiences.

**Sample size**

This was designed as qualitative study with purposive sampling. It was proposed to include representative numbers of government health facilities. Therefore, nodal persons responsible for patient safety at Gynecology and Obstetrics Departments from 20 of 39 hospitals run by Government of Delhi were included. For the literature review, it was agreed that studies prior to the year 2000 may not be representative of the ground scenario as a lot has changed in the last few years. Therefore, articles from India published in the year 2000 or afterwards were included. The participants for in-depth interview were purposively selected to supplement and triangulate the information generated.

**Data collection**

The desk review and in-depth discussions were conducted by all authors during the months of January–February 2014. The FGDs were conducted at Maulana Azad Medical College, New Delhi and were facilitated by resource persons from Govind Ballabh Pant Hospital and World Health Organization country office for India. The discussions were moderated using a few probe topics to ensure that relevant aspects are addressed. One of the authors (CL) has extensive experience in conducting IDIs and FGDs for almost a decade. The FGDs were conducted in English, were recorded and a sociogram for each FGD was prepared to check the participant interactions. The facilitators’ role was to ensure that discussion were free flowing, not dominated by any one individual and also to keep it on track. The prompts were given to ensure that any topic is not missed.

**Data analysis**

The findings from desk review, IDIs, and FGDs were summarized and analyzed using health system framework. [6] CL and AC analyzed the data using an approach based on the thematic analysis.\[7\] The process helped in generating list of codes, which were grouped as per health system functions and analyzed. The analysis was confirmed by third author (BS) independently.

**Results**

The available published literature on patient safety in India was found to be limited and mainly focuses on reuse of syringes, accidental needle stick injuries, and on biomedical waste disposal practices.\[9-15\] The authors did not find any published study on patient safety from obstetrics and gynecology facilities in India since the year 2000. A brief summary of the findings from the literature review on different aspects on patient safety in India is provided in Table 1.\[6-5,6-21\]

IDIs were conducted with five senior level government officials working in the area of patient safety. In total, two FGDs were also conducted, which were attended by 20 participants (12 participants in first and 8 participants in second FGD). Each FGD session lasted for approximately 90 min. In both the FGDs, in the beginning, the participants were explained the background and the objectives of these discussions. The discussion started with the operational definition of patient safety. The participants highlighted challenges and issues, and possible solutions, which have been summarized by health system functions [Table 1].

In addition, the appropriate management of emergency cases, the issue of “near miss” cases and interchange of the newborn babies were flagged as patient safety issues. The participants felt that any consideration for improvement in the quality of health services should be linked to strengthening of health services at all levels and as part of the continuity of care. It was emphasized by a number of participants that the patient safety is a very appropriate entry point for overall improvement in quality of healthcare services.

Intra-hospital prescription audits and medical audits, use of checklists to monitor and maintain the equipment, standardized patient consent forms (possibly in vernacular), implementation and compliance with the safe surgery checklist, and use of monitoring indicators i.e., surgical site infections and reporting of errors/monitoring (nonmedical incident reporting), development
Table 1: Identified challenges and proposed solutions in patient safety in maternal healthcare

| Health system function | Literature review (for India) | From IDIs and FGDs (in Delhi state) |
|------------------------|------------------------------|-------------------------------------|
| Service provision      | Overcrowded and overburdened health facilities (high workload) | Patient safety is often seen in narrow terms of harms to the patients and the broader dimensions of surgical safety, medical safety, blood safety, and injection safety often ignored Process of improving patient safety seen in isolation and efforts fragmented at each level, with limited coordination at multiple levels of service delivery Emergencies related issues, when patients referred are in serious condition especially from peripheral facilities and at times from private healthcare providers Hand hygiene and hand washing ignored areas and often soaps and sanitizers not easily available and accessible Prescription errors, medication safety, and rational use of antibiotics are issues of patient safety Irrational use of antibiotics and emerging challenge of anti-microbial resistance | Clearly define the operational concepts of patient safety explicitly in all discourses Adopt approaches such prescription audits, random checking of case sheets; case record audits; audits at pharmacy, standard treatment guidelines and drug dosages charts Conduct regular safety checks in each shift of the doctor, with the use of agreed checklists, which are widely understood and objective in approach Strengthen referral systems, linkages with Government and private health facilities, peripheral health centers, effective emergency services and rapid referral linkages/communication; referral and back-referral systems Patient handovers and transportation within the same health facility need strengthening Make environment conducive for increasing attention on hand hygiene, easy availability of soaps and sanitizers Provider education, awareness, and training on patient safety Conduct patient satisfaction survey and patient awareness about patient rights Make provision for more medical social workers at facility levels Increase community participation, awareness of patient’s rights, community awareness, and the advocacy for patient communication |
| Resource creation      | Limited infrastructure and overcrowded health workers Limited capacity and trainings in patient safety Not sufficient attention on patient safety as part of teaching curriculum | Inadequate maintenance of hospital equipment Insufficient training of health staff | Develop plan for capacity building of all category of staff in the patient safety for each facility. The plans should have identification of adequate number of trainers for training other staffs, members of quality assurance teams and should include training in clinical case audits; maternal deaths audits; development of appropriate protocols Capacity building of doctors and nurses at all levels with involvement of the junior doctors and those in the depts. of anesthesia and pediatrics, as well. |
| Financing              | Limited financial resources for implementing the policies Insufficient budgetary allocation for capacity building | Insufficient financial allocation for capacity building of the staff and for conducting sessions on patient education | Incentive (both financial and nonfinancial) for improving quality of health services Dedicated/line item budgetary allocation for patient safety and other quality of health services related efforts Dedicated budget for capacity building and for conducting continuous medical education for staff |
| Stewardship/governance | Lack of written policies Absence of quality assurance systems Not enough attention on patient safety by top hospital management Belief that reporting of errors could lead to punitive actions | No incentives for improving quality of health services at facilities Often initiatives by mid-level staff discouraged by top management, either on pretext of insufficient funds or time and resources | Consider patient safety and quality of care as key identified objective and principle of service delivery Sensitize and train policy makers and top management in hospitals and healthcare set-ups in patient safety Develop conducive policies and mechanisms such as financial allocation, standard treatment guidelines, recognition of quality in service delivery |

IDIs: In-depth interviews; FGDs: Focused group discussions

of protocols appropriate for specific health facilities, provision of benchmarks for the hospital workforce were suggested as approaches or solutions to improve patient safety.

Discussion

The quality in simple to understand terms is “meeting the expectations of the users.” Quality has been defined as “the degree to which health services for individuals and population increase the likelihood of desired health outcomes and are consistent with professional knowledge.” In operational terms, quality in health services has six dimensions of effective, efficient, accessible, acceptable and patient-centered, equitable, and safe care. The review of the literature conducted for this study indicates that there has been insufficient research in the field of patient safety (excluding injection safety that has relatively more data) in India. The lack of research evidence could probably be a reason for limited attention on patient safety and quality of health services and the related issues in health facilities in India, both
in public and private sector. This highlights the need for more research for evidence-informed decision making, to initiate efforts to improve the quality of healthcare and to measure the trends in patient safety in India.

The frequent reports in the print and online media often highlight the gap between the needs and what is being done.[22,23] These media reports have at times highlighted the unsafe care at all levels, beginning from primary to tertiary levels. These findings have been corroborated by the experience of the participants in this study as well. Other corroborative evidence of low quality of health services have been analyzed and noted that in the 5 years period (2006–10); there was nearly 100% increase in institutional deliveries in India but maternal mortality ratio has come down by 50% only.[24] The rate of reduction in maternal mortality during this period was not commensurate to the rate of increase in the institutional deliveries in India. This reflects that while the institutional deliveries or access to services might have increased quantitatively, the quality of services offered during these deliveries may not have been up to the mark to reduce maternal deaths. A proportion of these deliveries was being conducted at primary healthcare set-up level which are often reported to have limited facilities to handle complicated cases and provision for appropriate and timely referrals.[24] Though, this study had participants from secondary and tertiary care facilities primary care facilities which are often less equipped are likely to have similar challenges and should be systematically studied.

A common theme across all discussions was the need for adoption of approaches such as prescription audits, random checking of case sheets, cases record audits, the audits at pharmacy levels and the formulation, adoption of standard treatment guidelines (STGs), and drug dosages charts. There are emerging evidence from existing literature in different parts of the world that audits in hospital and community set-ups and use of STGs improve patient safety and treatment outcomes.[21–27]

The findings that the delayed referrals often are more prone to unsafe practices are consistent with the observations by other researchers.[28] This is very well-linked to the often-recognized need and demand for effective patient transport and emergency transport system. The improved patient transport systems are closely linked to the patient safety and quality of care. The referrals and transportations are important not only between facilities but the patient handovers and transportation within the different units and the departments within the same facilities and were reported to be closely linked to patient safety issues and participants highlighted the need for strengthening at all levels.

The studies on needle stick injuries noted that the reasons for such injuries included professional hierarchy where orders have to be strictly followed without questioning, poor communication regarding guidelines among staff members and heavy patient load. [5,29] The limited attention on incident reporting and “administrative sanctions” have also been recognized as barrier in patient safety.[24] A consultation on regulation and accreditation of health service delivery institutions in India recommended that the quality of health services has to be a mainstream and explicit discourse in India. It suggested that the stakeholders need to innovate and accelerate efforts to improve the quality of health services and that there is a need for establishing the multi-stakeholder forum on regulation and accreditation as a linkage platform.

There were recommendations related to the capacity building of policymakers, other stakeholders, and institutions, in improving quality of health service, need to provide technical assistance for implementation of the Clinical Establishment (Registration and Regulation) Act, 2010 and that of to document best practices for licensing, regulation, and accreditation of health service delivery institutions in India.[31] Though there is an increasing dialogue among stakeholders and more attention on accreditation, the fact is that only a limited numbers of hospitals in India are accredited by any system.[32,33]

Many of the participants in this study commented that there is a culture of not recognizing the patient safety issues. Unless the mindset is going to change, the quality of care is unlikely to improve. In this context, it is suggested that for improved patient safety, the initial step could be the identification of problems and agreeing on a pragmatic roadmap and implementation plan to improve patient safety at facility levels.

This study highlights the need for increased community participation, awareness of patient’s rights, community awareness, and the advocacy for patient communication in the field of patient safety. This is likely to help by on one hand, the caregivers demanding for a better quality of health care and on the other hands, setting up realistic expectations for community and the family members of patients.[34–36]

Analysis of the findings from “health system framework” indicated that to improve patient safety (and quality of services), there is need to look at various functions of health system by making all components of services available, making referrals timely and which are respected at the next levels of health facilities (service provision); having different categories of people available and trained in the safety issues (creating resources); providing sufficient finances for meeting the additional requirement, and conducting trainings (financing) and this has to be done with a clearly laid out strategies and plans, well-supported by management and leadership of the facilities (stewardship and governance) [Table 1].

Though the primary healthcare facilities were not represented in the sample selected for this study, the participants highlighted the role of primary healthcare facilities and provider could play in the improved patient safety by decision on timely referral, ensuring all precautions are taken while providing health care at lower levels. It was discussed that the patient safety is across the continuity of care, which start from primary care level. Moreover, there are more providers (both in public and private sector combined) at the primary care and changing their practices...
in patient safety would have a major contribution to the overall outcome. It is proposed that in future while conducting such studies, inclusion of primary care facilities and providers could be given due consideration. This is an area where even less data are available in India and more research is required.

One of the impacts of this study had been that in the following months, the information generated from this study was used for designing of a training program on patient safety; inclusion of patient safety agenda in two conferences/meetings organized in Delhi; and the Government of Delhi conducting 2-day capacity building workshops in patient safety for hospital and health facility focal points. These are not the ultimate solutions; however, they are the right steps for generating awareness and preparing the system for better patient care.

A limitation of this work is that it is based on interactions with medical doctors from one specialty in government owned secondary and tertiary care facilities in one state only. It is possible that inclusion of private sector hospitals, other categories of staff (nurses and orderly, etc.); care providers from other departments, and inclusion of primary care facility could have provided additional insight. However, it is expected that the findings from this study are still valid, though more studies are needed for additional set-ups and types of providers. The qualitative narrative of this study was by design and the authors supplemented quantitative component by conducting literature review. However, these limitations should not affect the conclusions as the key objectives of this study was to understand the local context, to improve the patient safety through selection of appropriate interventions and to implement the best practices.

Conclusions

The quality of health services in India, with specific case of maternal health services as in this study, needs major improvement. The providers are often aware of the challenges and are keen to implement the solutions. Available local information could be used for selection, designing, and implementation of measures to improve patient safety. A systematic and sustained approach with attention on all functions of health systems could be beneficial. Patient safety could be used as an entry point for bringing attention on overall quality of healthcare services in India. The momentum and opportunity to bring improvement in quality of health services has to be sustained by more funding, capacity building, and strong leadership with clearly outlined intentions through policy proposals. The quality has to be a mainstream discourse in public policy and programmatic discourses, as India intends to advance toward Universal Health Coverage.

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Conflicts of interest

There are no conflicts of interest.

Disclaimer

The opinions expressed in this article are solely those of the individual authors and should not be attributed to the institutions/organizations they have been affiliated to in the past or at present.

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