

Barriers to Improving Patient Safety in India: Focus Groups with Providers in the Southern State of Kerala

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ABSTRACT

Objective: To understand the perceptions of health care providers about barriers to improved patient safety in the Indian state of Kerala. **Materials and Methods:** Five focus group discussions were held with 16 doctors and 20 nurses across three institutions (primary, secondary and tertiary care centers) in Kerala, India. Transcripts were analyzed by thematic analysis. **Setting:** One rural primary care clinic, one secondary care hospital and one tertiary care center in Kerala, India. **Participants:** 16 doctors and 20 nurses participated in five focus groups. **Results:** Overall, there were 129 unique mentions of barriers to patient safety; these barriers were categorized into five major themes. ‘Limited resources’ was the most prominent theme, followed by barriers related to health systems issues, the medical culture, provider training and patient education/awareness. **Conclusions:** Although inadequate resources are likely a substantial challenge to the improvement of patient safety in India, other patient safety barriers such as health systems changes, training, and education, could be addressed with fewer resources. While initial approaches to improving patient safety in India and other low- and middle-income countries have focused on implementing processes that represent best practices, this study suggests that multifaceted interventions to also address more structural problems (such as resource constraints, systems issues, and medical culture) may be important.

Keywords: Attitudes, patient safety, qualitative research, safety culture

Introduction

In low- and middle-income countries, adverse events may develop from unsafe care in as many as 18.4% of patients, with 30% of those events leading to the patient’s death.⁽¹⁾ This unsafe care often manifests as therapeutic error,⁽¹⁾ misdiagnosis,⁽²⁾ counterfeit pharmaceuticals,⁽³⁾ or unsafe injection practices.⁽⁴⁾ Given this significant burden, policymakers, public health officials, and researchers interested in improving health outcomes in low- and

middle-income countries have increasingly focused on developing interventions to improve patient safety.⁽⁵⁾

While patient safety has been a major area of research in industrialized nations for over a decade, data on the root causes of unsafe care in low-income settings is sparse.⁽⁶⁾ For example, attitudes and beliefs of healthcare providers about patient safety are important to the success of safety-improvement interventions in the US and Australia.⁽⁷⁻⁹⁾ Patient safety culture, a term used to refer to the behavior of health care providers relating to mitigating risk of unsafe care, has been used in many industrialized settings to assess a health system’s capacity for improving safety.⁽¹⁰⁻¹³⁾ While some have studied providers’ attitudes, beliefs, and behaviors about patient safety in low- and middle-income countries,⁽¹⁴⁻¹⁶⁾ most have been limited to the industrialized world.

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To be maximally effective, efforts to improve care must be highly tailored to the cultural environment.⁽¹⁷⁻¹⁹⁾ India, the largest democracy in the world, has a chronically underfunded public health system characterized by extremely high volumes of patients and a dearth of educated health workers.⁽²⁰⁾ Very little evidence exists, however, about the perceptions of Indian health care providers regarding interventions to improve patient safety there. A 2012 quantitative analysis of providers in a tertiary care hospital in Delhi found that while almost all participants believed improving safety was important, barely half were aware of one particular safety intervention at their institution.⁽²¹⁾ Our goal was to advance understanding of Indian providers' perceptions of the challenges to improving unsafe care. As part of a multi-institutional research effort, we conducted five focus group discussions with health care providers in the Indian state of Kerala.

Materials and Methods

The INCLIN Trust is a Delhi-based epidemiological network implementing a national study of adverse events, including the qualitative component described here. In addition to the insights gained regarding perceived challenges to patient safety, these focus groups will inform the development and finalization of the instruments for the broader national study. This study was approved by the ethics committee of the INCLIN Trust. Participants were told the purpose of the study and that their responses were confidential; each participant provided written consent to participation.

Based on a review of published literature, we developed a prototype facilitation guide to initiate discussions in focus groups of health care providers. The purpose of the prototype guide was to stimulate discussions with providers about their perceptions of the greatest challenges to improved patient safety in their practice settings. We tested the prototype guide through a focus group at a tertiary hospital in Delhi.

Using convenience sampling, two of the authors (JL and RD) recruited nurses and doctors at government health institutions in Kerala, India for five focus group discussions in 2011: One at a rural primary care center, one at a secondary care hospital, and three at a tertiary care center. Participants were recruited face-to-face by provider and nurse coordinators in the sites. Nobody other than the participants and researchers were present for the focus groups and of the discussions took place in private rooms. In all discussions except for that at the primary care center where all members of the care team participated, groups were limited to either nurses or doctors. JL led

all focus groups and was assisted by RD in three of the focus groups. RD has extensive qualitative research experience in Kerala, and is a clinician-investigator at an institution affiliated with two of the focus group sites. RD is an associate professor of medical sociology, with a MBBS degree. JL was a research fellow, with a BA degree. Discussions ranged in length from 45-90 minutes. The discussions were conducted in English and Malayalam, recorded on tape, transcribed, and, if necessary, translated into English. An experienced Malayalam-English translator who possesses a deep familiarity with medical terminology performed translation. Facilitators participated only to keep the discussion active and focused.

Approach to moderating focus groups

Following an introduction providing the context of the study, each discussion was initiated with the following question: "To what degree do you think patient safety is a problem in Indian hospitals?" Follow-up prompts were minimal, but categorized under three groups including:

1. Participants' impressions of current and ideal responses to unsafe care,
2. Participants' beliefs about current and ideal responsibilities for patient safety,
3. Participants' attitudes about potential areas for improvement of patient safety.

Prompts were intentionally open-ended so as to stimulate interactive discussion between group members. Moderators did not provide a narrow definition of patient safety, instead asking participants to focus on "localized, specific factors at the doctor-patient level that might contribute to unsafe care for the patient."

Analytic strategy

JL analyzed transcripts from the five focus group discussions using an approach based on thematic analysis.⁽²²⁾ This process involved generating a list of codes, applying these codes to the transcripts, and deriving a thematic framework from these codes. Concurrent with data collection, the framework for understanding these themes was refined as recurring themes were identified. Discrete mentions of distinct barriers to patient safety were noted, coded and categorized according to the thematic framework, and tabulated. This analysis was confirmed independently by RD. To the greatest extent possible, this study followed the consolidated criteria for reporting qualitative research (COREQ) guidelines for reporting qualitative research.⁽²³⁾ Member checking of the transcripts was not performed.

Results

Composition of the focus groups

Overall, 16 doctors and 20 nurses participated in five focus groups at three institutions.

Development of thematic framework

Overall, there were 129 unique mentions of barriers to patient safety. These barriers were categorized into five major themes, as illustrated by the representative quotations below.

1. Limited resources. Participants described poor access to supplies, inadequate staffing levels, and poor infrastructure threatening patient safety:

In casualty we may be attending a case, suddenly a new case may come; so we will move towards that patient, sometimes we may forget the old case due to overcrowding. –Nurse
My ward strength is 78 beds. I have 145 patients...& 2 sisters (nurses) only... by the time second hourly medications are given it will be due for the 4th hourly injections. –Nurse

Cross-infection can take place in general wards. One patient may have left lateral lobar pneumonia, the next may have pulmonary tuberculosis, and they will be sharing a bed! –Physician

2. Health care delivery systems. Both physicians and nurses mentioned fragmentation of the health system and the absence of a quality assurance system for drugs:

Heparin may come in two constitutions 5000 IU in 5 ml and 25,000 IU in 5ml. Once due to shortages stock, we have asked the patient to buy it from outside. It happened here: An overdose of heparin. –Nurse

There is no mechanism to ensure we are getting quality items [equipment or medicine]. As doctors, we rely on observation to see a response of the medicine, for example, with an antihypertensive we are looking for whether the blood pressure is coming down or not. The drug response is the only indicator of quality. –Physician

3. Professional culture. Participants specifically mentioned a punitive approach to adverse events, and a rigid workplace hierarchy:

When something happens like that, the person who does that, will be blamed. A terrible time for that person. There's no escape, from inquiries. Everything will be at stake. He has got a black list. –Physician

The doctor is unduly concerned about his safety rather than the patient safety. Perhaps that leads to more investigations; unnecessarily we are trying to defend ourselves. –Physician

4. Training of providers about patient safety: Nurses in particular mentioned inadequate education:

Some nurses lack clinical experience because of the absence of the systematic method of selection & training. –Nurse

5. Patient education. Participants believed that patients' expectations and behaviors were safety barriers, and led to overuse of medicines, the use of counterfeit or expired medications, and the use of homeopathic or Ayurvedic treatments which may interact negatively with allopathic care:

Even for children the parents demand injections. For a viral infection there is no need for antibiotics, it will

subside within a week...but our patients always want an antibiotic. They are not ready or willing to wait for one week they demand an immediate cure... they are demanding antibiotics. It is very difficult to convince them otherwise. –Physician

Even though doctors are discouraging it, people demand injections. It is more in primary setting than in tertiary care setting. Thus, doctors are forced to give unnecessary injections. This is an important issue up on patient safety. People demand injections. –Physician

Use of over the counter medicine is more prevalent in our setting. They throw away the prescription paper and the medicine strip. So we have to make the patient aware of the importance of keeping the prescription & need for showing it to the doctor in the PHC or bring the prescription. Need lot of patient awareness. –Nurse

Tabulations of the barriers: Table 1 contains the relative frequency of barriers in each thematic group across the focus group sites. The themes are ranked from highest to lowest (+++++ to +) for each focus group. For focus groups where two themes were mentioned the same number of times, the relative frequency is recorded as the same. For example, in the first focus group, 'limited resources' and 'systems issues' were mentioned the most frequently, followed by 'training in patient safety', 'patient education' and 'medical culture'. The most prominent theme overall was limited resources, and both limited resources and systems issues were discussed across all five focus group discussions.

Discussion

Providers in Kerala, India mentioned 129 descriptions of barriers to improved patient safety, which the authors categorized into 5 major themes. The most common theme was of limited resources, but the providers also highlighted other areas not directly related to resources where feasible interventions to improve safety could be implemented.

Table 1: Thematic components of focus group discussions, ranked from most frequently mentioned (+++++) to least frequently mentioned (+)

Thematic domain	Focus group (number of barriers mentioned)					Total (129)
	1*** (21)	2*** (50)	3* (32)	4** (18)	5*** (8)	
Limited resources	++++	+++++	+++++	+++++	+++++	+++++
Systems issues	++++	++++	++++	++++	+	++++
Medical culture	+	+++	+++	++	+++	+++
Training in patient safety	+++	++	+	+++	+++++	++
Patient education	++	+	+++	+	+	+

*[rural primary care], **[secondary care hospital], ***[tertiary care center]

The perspectives of providers will be vital to developing interventions most appropriate to the local context. While some studies from South Asia have begun to explore providers' attitudes and beliefs about patient safety, we believe our results are unique. We have not identified any other studies that have examined what providers in India perceive as the most important barriers to improving patient safety. A study of needle-stick injuries in India found that only 56% of providers believed that providers were responsible for injuries; the other 44% blamed patients, employers, the health care system itself.⁽²⁴⁾ A study in Sri Lanka of patient safety culture identified professional hierarchy and poor communication as barriers to improved safety.⁽²⁵⁾ In Pakistan, researchers studied attitudes and perceived barriers of providers toward incident reporting, and found that 'administrative sanctions' were the biggest barrier.⁽¹⁵⁾

Although we included nurses and doctors at all levels of the health care system, and including primary, secondary, and tertiary care settings, Kerala has unique political, health and social characteristics. Consequently, our results may not be representative throughout India. Given that lack of resources was the biggest perceived barrier, however, it is likely that this theme is even more pressing in less prosperous states.

Some of the limitations of this study pertain to the qualitative nature of the analysis. It is possible that providers were preoccupied with their own frustrations with the health care system, and that they were unable to recognize their own skill limitations. However, our prompts encouraged participants to speak as generally as possible, in order to minimize the risk of feeling defensive. It is also possible that some thematic content was missed in the course of coding and analysis; we attempted to mitigate this risk by having a second member of the research team independently confirm the analysis. Lastly, in spite of attempts to ensure that translation was accurate, it is possible that some meaning was lost in the translation of transcripts.

In spite of these limitations, these results can help target interventions to more effectively partner with providers to improve safety. Initial approaches to improving patient safety in low- and middle-income countries have focused on implementing best practices, interventions that were often developed in industrialized settings. For example, initiatives such as the World Health Organization's (WHO) *Clean Care is Safer Care* and *Safe Surgery Saves Lives* improve care in many countries.⁽²⁶⁻³⁰⁾

However, the Donabedian model of improving health care safety and quality recommends focusing interventions on the structural and process components

unique to a particular health system.⁽³¹⁾ Our research suggests that providers believe that resource constraints, systems issues, and medical culture are at least as big a challenge as lack of proper protocols. Inadequate resources is a well-known threat to patient safety,⁽³²⁾ and a number of interventions have been developed to improve safety in low-resource settings.⁽³³⁾ As has been found in other low-income settings,⁽³⁴⁾ it is likely that the most effective interventions to improve patient safety in India will be multidimensional, addressing the resource constraints, system issues, medical culture, and lack of education identified by the providers in these focus groups as barriers to improved safety.

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