Original Article

# A study on awareness and perception about perinatal death auditing among health care workers in two districts of Karnataka State, India

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## Abstract

**Background:** To start perinatal death auditing, doctors should have good knowledge about it. **Objectives:** To know the awareness and perceptions of doctors about different aspects of perinatal death auditing like 1) different types of contributors; 2) high-risk approach; 3) consequences; 4) documentary requirements; and 5) existing system of mortality meeting/child death reviews. **Methodology:** The perinatal death auditing project was implemented in two districts of Karnataka state. As a part of the pre-intervention survey, awareness and perceptions of doctors and a few health care administrators were explored. They were requested to participate in the study. Those who consented were approached in their hospitals and interviewed. Trained medical social workers conducted the interviews. Awareness was scored from 0 to 3 with 0 being no knowledge and 3 being good knowledge. Perceptions were scored from 0 to 3 with 0 being no negative perceptions and 3 being fear of legal consequences. The responses were documented, scored, and described. **Results:** Though 22 doctors were eligible, only 16 consented to participate in the study. Knowledge of doctors about different contributors was inadequate. They were apprehensive about legal consequences. They knew that documentation could protect them and be useful in a court of law. They were not clear about the conduct of mortality meeting/existing system of child death reviews. **Conclusion:** Knowledge was inadequate. They were apprehensive about legal consequences. Training of doctors and allaying apprehensions are required for starting perinatal death auditing.

**Keywords:** Awareness, perceptions, perinatal death auditing

## Introduction

Audit or review of child deaths is done to know the causes, modifiable/preventable factors, and substandard care.[1] The purpose of such an audit is to improve in quality of care and reduce preventable deaths.[1] A review on perinatal death auditing has reported avoidable causes and substandard care practices.[2] Available evidence suggests that avoidable/preventable factors and substandard care practices are common in cases of perinatal deaths.[3,4] So the World Health Organization has recommended that maternal and perinatal death audits be conducted.[5,6] In spite of recommendations by the World Health Organization, India does not have a formal perinatal death auditing system. However,

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child death review is conducted for reported deaths only from government hospitals.[7]

There are several problems related to documentation and reporting which make it difficult to conduct perinatal death auditing.[4,8] Apart from such problems, fear or legal consequences, humiliation and blame have been identified as reasons for low acceptance of perinatal death auditing.[9,10] There are no published reports on awareness and perceptions about perinatal death auditing among health-care workers from India. A community-based perinatal death auditing project was conducted in two districts of Karnataka State, India.[11] This paper reports awareness. Perceptions and practices about perinatal death auditing among doctors were explored through a pre-intervention survey in the two districts.

## Materials and Methods

Study Setting: The study was carried out in two districts of Karnataka State, India. Dakshina Kannada, which is economically and educationally better developed, with better health-care infrastructure, served as a comparison against Koppal, which is poor on these parameters.[12,13]

### Study population

Doctors from both the districts working in government and private hospitals were considered. Doctors also included those who are part of district health administration. District health officers (chief medical officers) of both the districts were also included. Hospitals were required to fulfil study criteria like providing maternal and child health-care services, delivery services, newborn care services etc., the details of which are already published.[14] Only those doctors who worked in hospitals which fulfilled the study criteria were included in the study.

### Sampling

Non-random sampling was followed. Doctors from qualifying hospitals were requested to participate in the study by seeking their consent for an in-depth interview.

### Interviews

In-depth interviews were conducted to explore the awareness and perceptions on various aspects of perinatal death auditing like 1) types of factors that may contribute to perinatal death; 2) high-risk approach; 3) consequences of perinatal death auditing; 4) documentary requirements for auditing; 5) existing system of mortality meeting/child death reviews.

### Scoring

Awareness was scored from 0 to 3 as follows: 0-no knowledge, 1-little knowledge, 2-inadequate knowledge, and 3-good knowledge. Perceptions were similarly scored from 0 to 3 as follows: 0-no negative perceptions, 1-negative perceptions, 2-apprehensions about legal consequences, and 3-strong apprehensions about consequences. The scoring system was applied on various aspects of awareness as outlined above.

### Data collection

Necessary clearances were taken from the government before the beginning of the project. Consenting doctors were approached in their hospitals. Trained medical social workers (MSWs) conducted the interviews. Awareness on various aspects of perinatal death auditing was explored, documented, and scored as mentioned above.

### Data analysis

The results are presented in tables, described, and discussed.

## Results

Totally 22 people were eligible and approached for the interview from both the districts. Only 16 consented and participated in the study. Among those who refused, 5 were administrators 3 of whom were from the Koppal district, and 2 from Dakshina Kannada. One doctor from a private hospital in the Koppal district also refused without giving any reasons for it. Out of 16, only 7 were from the Koppal district and 9 were from Dakshina Kannada. The details of participating doctors from the Koppal district are as follows: 2 pediatricians, 2 obstetricians, 1 RCH officer, 1 district surgeon, and 1 district health officer. The details for Dakshina Kannada are as follows: 2 pediatricians (from medical colleges), 2 obstetricians (from medical colleges), 1 RCH officer, 1 medical officer from the government maternity hospital, 1 CEO of Zilla Panchayat, and 1 administrator from medical college.

Awareness of doctors was inadequate and mostly limited to maternal and neonatal factors [Table 1]. Administrators considered health system-related factors though there was a lack of awareness about high-risk approach [Table 1].

Doctors were apprehensive about legal implications though they also felt that it might protect them in cases of "Not Preventable" deaths [Table 2].

Though the doctors were aware of documentary requirements, they knew that at present the documentation is lacking [Table 3]. They also knew that documentation would help them in a court of law [Table 3].

Most of the doctors were not aware of the conduct of mortality meeting/PNDA so their awareness and perceptions could not be explored further [Table 4].

## Discussion

Awareness of various contributors to perinatal death was inadequate among doctors [Table 1]. Avoidable/preventable factors are known to play a role in cases of perinatal death as identified by auditing.[3,4] Awareness of modifiable/avoidable

**Table 1: Awareness about contributors for perinatal death and high-risk approach***

| Details of participating individuals | Social factors | Maternal factors | Neonatal factors | Health system-related factors | High-risk pproach |
|---|---|---|---|---|---|
| Koppal district | | | | | |
| • Obstetrician (medical college) | 1 | 1 | 1 | 0 | 0 |
| • Pediatrician | 0 | 0 | 2 | 0 | 0 |
| • RCH officer** | 2 | 1 | 0 | 2 | 0 |
| • Pediatrician | 1 | 0 | 0 | 1 | 1 |
| • District health officer | 1 | 0 | 0 | 0 | 0 |
| • District surgeon | 0 | 0 | 0 | 1 | 0 |
| • Obstetrician | 0 | 0 | 0 | 0 | 1 |
| Dakshina Kannada district | | | | | |
| • Obstetrician (medical college) | 0 | 2 | 2 | 0 | 0 |
| • Pediatrician (medical college) | 0 | 1 | 2 | 1 | 0 |
| • RCH officer** | 1 | 0 | 0 | 1 | 0 |
| • Pediatrician (medical college) | 0 | 0 | 1 | 1 | 0 |
| • Medical officer of government maternity hospital | 0 | 0 | 0 | 1 | 0 |
| • Administrator of medical college | 0 | 0 | 1 | 0 | 0 |
| • Obstetrician (medical college) | 1 | 0 | 0 | 1 | 0 |

*Awareness was scored from 0 to 3 with 0 being no awareness and 3 being good awareness. **RCH officer=Reproductive child health officer. Doctor who is in charge of maternal and child health care in a district

**Table 2: Apprehensions about legal implications of perinatal death audit (PNDA)**

| Details of participating individuals | Apprehensions about legal implications* | Comments |
|---|---|---|
| Koppal district | | |
| • Obstetrician (medical college) | 3 | Helps doctors in legal issues in "Not Preventable" deaths |
| • Pediatrician | 1 | ---- |
| • RCH officer | 1 | ---- |
| • Pediatrician | 1 | ---- |
| • District health officer | 2 | ---- |
| • District surgeon | 2 | Helps doctors in legal Issues in "Not Preventable" deaths. |
| • Obstetrician | 2 | PNDA network should be strengthened at community level |
| Dakshina Kannada district | | |
| • Obstetrician (medical college) | 1 | --- |
| • Pediatrician (medical college) | 1 | Good documentation prevents many problems |
| • RCH officer | 2 | Many issues could be known |
| • Pediatrician (medical college) | 1 | Only with proper documentation it is useful. If not it's only extra work |
| • Medical officer of government maternity hospital | 2 | In future preventable causes should be avoided/prevented |
| • CEO Zilla panchayat | 2 | Strong evidence in court. |
| • Administrator of medical college | 2 | ---- |
| • Obstetrician (medical college) | 2 | \---- |

*Scored from 0 to 3 with 0 being no apprehensions to 3 being strong apprehensions about legal implications

**Table 3: Awareness about importance of documentation for perinatal death audit (PNDA)**

| Details of participating individuals | Awareness about documentation* | Comments about documentation |
|---|---|---|
| Koppal district | | |
| • Obstetrician (medical college) | 2 | --- |
| • Pediatrician | 2 | Lack of time |
| • RCH officer | 2 | Documentation is lacking. Only numbers given |
| • Pediatrician | 2 | Maintenance of death register |
| • District health officer | 2 | Very poor documentation in district. Not taken any measures |
| • District surgeon | 2 | ---- |
| • Obstetrician | 2 | ----- |
| Dakshina Kannada district | | |
| • Obstetrician (medical college) | 2 | Honesty is important. Brings honesty in to system |
| • Pediatrician (medical college) | 2 | ---- |
| • RCH officer | 3 | ---- |
| • Pediatrician (medical college) | 2 | ---- |
| • Medical officer of government maternity hospital | 3 | Protects doctors. Needed in court of law |
| • Administrator of medical college | 2 | Quality of care improves |
| • Obstetrician (medical college) | 2 | ---- |

*Scored from 0 to 3 as explained in the text

**Table 4: Awareness and practices about conduct of perinatal death audit (PNDA)/mortality meeting**

| Details of participating individuals | Conduct of PNDA/ mortality meeting | Comments about conduct of mortality meeting/PNDA |
|---|---|---|
| Koppal district | | |
| • Obstetrician (medical College) | No | Lack of personnel |
| • Pediatrician | No | Lack of personnel |
| • RCH officer | Yes | Very few are reported. More need to be reported |
| • Pediatrician | No | ---- |
| • District health officer | No | ---- |
| • District surgeon | Yes | ---- |
| • Obstetrician | No | ---- |
| Dakshina Kannada district | | |
| • Obstetrician (medical college) | Monthly PNDA | Not satisfactory |
| • Pediatrician (medical college) | Yes | ---- |
| • RCH officer | Yes | ---- |
| • Pediatrician (medical college) | No | ---- |
| • Medical officer of government maternity hospital | Monthly review | No documents |
| • Administrator of medical college | Monthly mortality meet | ----. |
| • Obstetrician (medical college) | Individual case discussions | ---- |

factors is essential to identify preventable perinatal deaths and helps in reducing them.[3,4] So World Health Organization recommends perinatal death auditing.[6] This implies that awareness about different types of avoidable/preventable factors is essential for starting perinatal death auditing.

Doctors had apprehensions about perinatal death auditing [Table 2]. It is understandable that audit of a case which has died under the care of a doctor induces apprehensions. If perinatal death auditing is started in a district, then, fear, shame, humiliation and apprehensions may hinder the process of auditing.[9] This would ultimately make the entire process of auditing less acceptable to the doctors.[10] So it is essential to allay the apprehensions of doctors before starting the process of auditing in a district.

Doctors knew that documentation could protect and be useful to them in a court of law, especially in cases of "Not Preventable" deaths [Table 3]. Different types of factors other than just maternal and neonatal are known to play a role in avoidable/preventable deaths.[1-4] Identification of such factors requires detailed documentation of information beyond case management details. Knowledge of doctors about different types of factors was not satisfactory [Table 1]. Training doctors in the documentation of details would be an essential activity to start perinatal death auditing.

Doctors and administrators did not have clarity about the current process of child death review [Table 4]. Coupled with apprehensions about the process of auditing, it is necessary to have a training program that includes orientation about "Auditing," "Death Auditing" and the information it provides to improve the quality of care. An assurance and directive from the government to allay the apprehensions would facilitate the implementation of perinatal death auditing.

An interview-based study would be limited by the possibility of response bias. However, the study has uncovered the issues that need to be addressed before starting perinatal death auditing. It has also provided inputs necessary for training the doctors and administrators.

## Conclusions

Doctors were apprehensive about perinatal death auditing. They did not have an adequate understanding of the different types of factors which contribute to perinatal deaths. Training the doctors and addressing their apprehensions are essential to start perinatal death auditing.


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## Conflicts of interest

There are no conflicts of interest.

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