Sir,

In India, women of child-bearing age constitute approximately 19% of the population. Major portions of these women possess factors that are conducive to increased maternal mortality. Bihar along with UP, MP, Rajasthan, and Punjab have a maternal mortality rate (MMR) over 450 per 100,000 live births. This study was undertaken to find out the root causes of such deaths.

During the study period of 2 years from August 2003 to July 2005 in three settings of a Medical College Hospital, all the women who died due to complications of pregnancy and childbirth within 42 days of delivery were selected. The relevant facts and history were noted from case records, attendants, and missing information was collected later by home visits. Data on a total of 329 maternal deaths were recorded. The total number of live births was 8422 during the study period.

In the first and second years of the study, maternal deaths were 180 and 149, respectively. The MMR was 4159.93 and 3638.58 per 100,000 live births, respectively making the overall MMR 3906.44/100,000 live births. Among 329 total maternal deaths, the maximum were in the age group of 21 to 30 years old (56.54%) followed by 31 to 40 years old (22.49%). Maternal deaths were observed more among illiterate women (57.75%). The highest number of maternal deaths occurred among those who were second or third gravida (48.94%) followed by fourth gravida and above (26.14%) [Table 1]. A total of 85.11% of maternal deaths happened among those who had not received adequate antenatal care services. Toxemia accounted for 15.81% of deaths. These findings are in conformity with the findings of Rajaraman, et al. and Ramteke, et al.

This study has found the root causes of very high maternal mortality rate to be illiteracy, inadequate antenatal care services, and a delay in the initiation of treatment.

References

1. Park K. Preventive medicine in obstetric, Paediatrics and geriatrics: Park’s Text Book of Preventive and Social Medicine. 18th ed. Jabalpur: M/S Banarasi Das Bhanot; 2007. p. 414.

2. RCH II Document 2, The principles and evidence base for State RCH Program Implementation Plan. Chapter I: Improving Health Outcomes: p. 23-5.

Table 1: Gravida, utilization of maternal care services, and maternal mortality

| Characteristics | Number of maternal deaths (n = 329) | Percentage |
|-----------------|------------------------------------|------------|
| Gravida         |                                    |            |
| Primi           | 82                                 | 24.92      |
| 2nd and 3rd     | 161                                | 48.94      |
| 4th and above   | 86                                 | 26.14      |
| Antenatal care  |                                    |            |
| Adequate (≥ 3)  | 49                                 | 14.89      |
| Inadequate (< 3)| 280                                | 85.11      |

Table 2: Causes of maternal deaths

| Causes           | Number | Percentage |
|------------------|--------|------------|
| Anemia           | 52     | 15.81      |
| Hemorrhage       | 53     | 16.11      |
| Toxemia          | 79     | 24.01      |
| Sepsis           | 59     | 17.93      |
| Other direct causes | 28   | 8.52       |
| Other indirect causes | 58  | 17.83      |
Students found the training oriented them towards clinical diagnosis as well as the management of pediatric illnesses. They felt that such training is needed by everyone as it teaches home-based care and is an easy way to reduce morbidity and mortality among children. It provided primary knowledge about child health as well as enhanced their ability to identify serious patients and provide emergency treatment and referral. They valued ward visits and algorithms to classify and manage the pediatric patient.

Training methods were interactive and such practical approaches kept the students attentive. The method of teaching and training and the contents were found by the students to be logical and sequential. Contents were very clear and the method of delivery was lucid. IMNCI training involved mother or parents in treatment, which was beneficial for disease management. A total of 53 students (46.1%) found the training appealing as it used audio-visual aids for demonstration. 14 students (12.2%) found the training remarkable because it used disease classification. A majority (72.2%) of the students felt that it improved both their knowledge and skill regarding pediatric practice while 25 of the students (21.7%) thought it improved only their knowledge. The remaining 7 students (6.1%) felt it helped improve only their skill.

A large number of students appreciated all components of the training. They suggested that this training should be given to all categories of health workers throughout India. Two studies that assessed the performance of health workers who had been trained in the full case management process(1,2) showed substantial success in their communication with mothers and in teaching them how to administer treatments at home. One student felt that it was oversimplification for medical students. IMNCI training should be made complex and the time duration should also be increased. Additional visits to wards should be planned and real cases should be given...