Rational Therapy

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Management of birth asphyxia by traditional birth attendants

Birth asphyxia is an important cause of perinatal mortality, especially in developing countries. A study in India has shown that traditional birth attendants can recognize the condition but mostly cannot deal with it. The authors suggest that this deficiency could be overcome if suitable training were given.

The journey through the birth canal kills many babies and leaves many others with lifelong disability, particularly where delivery is conducted under suboptimal conditions by untrained or unskilled birth attendants. Community-based studies in south-east Asian countries have shown that birth asphyxia accounts for a considerable proportion of perinatal mortality (1-4). In India the perinatal mortality rate is in the range 60–109/1000 births, and 20-40% of these deaths are attributed to birth asphyxia.

In developed countries the incidence of birth asphyxia has declined because of improved preventive measures and case management, the latter occurring exclusively in institutional settings. In India and other developing countries at least 80% of deliveries are conducted at home by traditional birth attendants or relatives who do not possess the requisite skills or equipment to manage birth asphyxia (5).

In recent years there has been progress in the training of traditional birth attendants but the attention given to birth asphyxia remains inadequate (6). In order to be able to devise an effective training programme for improved management of birth asphyxia, it is necessary to know how traditional birth attendants are already tackling the problem.

Traditional approaches

An exploratory study was undertaken in villages of Ambala district in Haryana, India, to assess the training needs of traditional birth attendants with reference to their knowledge of the causes of birth asphyxia, their capacity to recognize it and the methods they were using to manage the condition. The people in the villages are

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poor and mainly engaged in agriculture. According to the 1981 census, the female literacy rate was only 35%. Deliveries take place at home, and more than 90% of births are attended by traditional birth attendants. Of 100 randomly selected traditional birth attendants, 81 had been trained according to Indian government recommendations. An informal conversation was conducted with each participant in her village. In addition to the core questions on birth asphyxia which were asked, uninhibited discussion was encouraged so that related cultural and behavioural issues could emerge.

Weakness or lack of blood in the mother, and the birth of a very small baby, were considered prominent causes of birth asphyxia. A blue or pale colour in a baby was regarded as a common sign of the condition. Asphyxiated babies are termed gum baccha, i.e., silent babies. The absence or weakness of movement in the womb may be taken as an indication that such a baby is likely to be born. Asphyxiated babies are also often termed neela ghuta.

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baccha or blue strangulated babies, strangulation being associated with small maternal stature in conjunction with large fetal head size, prolonged labour, breech presentation, and cord around the neck, among other things.

Birth attendants mentioned up to six resuscitation measures that they used in the event of birth asphyxia (see Table). Four or more of these were used by only 20 of the participants. The most popular measures were “milking” the cord to push extra blood into the baby and warming up the placenta by roasting it or by immersing it in hot water. The cutting of the umbilical cord was delayed until cord pulsations stopped. These practices were related to the popular belief that the newborn’s life depended on the transfer of blood from placenta to baby through the cord. The importance of maintaining a patent airway and of breathing was not well understood. There was also concern about limpness in asphyxiated babies, which the attendants tried to stimulate by flicking the sole, patting the back after keeping the baby upside down, instilling onion juice into the nostrils, or exercising the limbs. Valuable time was lost in carrying out these dubious procedures, especially if they were given precedence over life-saving measures like ensuring that there was a patent airway and effective aeration of the lungs.

Although not fully convinced that resuscitation procedures worked, 95% of the participants were in favour of using them. This was considered important in persuading families that everything possible was being done to save life. Resuscitation was continued for half an hour by 70% of the attendants before giving up. Poor prognostic features that discouraged them from pursuing their efforts were a blue or very pale colour, absence of cord pulsations, no breathing effort, limpness, and absence of pulsations in the anterior fontanelle.

Knowledge of modern resuscitation equipment and procedures was poor. Referral decisions were therefore based on the closeness of an institution or awareness of its existence rather than on the quality of care available. An informed traditional birth attendant/primary health care worker
Birth asphyxia

Measures used by traditional birth attendants to revive asphyxiated babies

<table>
<thead>
<tr>
<th>Priority</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Milk&quot;ing&quot; the cord</td>
<td>12</td>
</tr>
<tr>
<td>Placenta in hot water or on fire</td>
<td>12</td>
</tr>
<tr>
<td>Pat on sole/back</td>
<td>8</td>
</tr>
<tr>
<td>Holding upside down</td>
<td>15</td>
</tr>
<tr>
<td>Mouth-to-mouth resuscitation</td>
<td>6</td>
</tr>
<tr>
<td>Onion juice in nose</td>
<td>12</td>
</tr>
<tr>
<td>Wrapping in cotton wool</td>
<td>9</td>
</tr>
<tr>
<td>Cleaning the mouth</td>
<td>6</td>
</tr>
<tr>
<td>Pressure on chest</td>
<td>1</td>
</tr>
<tr>
<td>Exercising arms and legs</td>
<td>0</td>
</tr>
<tr>
<td>Other*</td>
<td>7</td>
</tr>
</tbody>
</table>

*Includes giving drugs, drops of water, bathing, blowing into ears and nostrils, smelling brandy, breast-feeding, hot compress on fontanelle, beating on a metal plate, tetanus toxoid injection, and pricking with needles.

is crucial for the strengthening of referral. Appropriate information should be given during training on the transport and referral of newborn babies.

The responses of traditional birth attendants to birth asphyxia are determined by the popular belief that life during the postnatal period depends on the placenta and umbilical cord but not on the establishment of breathing. Consequently, no effort is made to revive a baby if the cord is blue, cold or non-pulsatile, because it is then presumed that the heart is not functioning. Other studies from Burma, Ethiopia, India, and the Philippines also describe practices based on the transfer of new life and strength to the baby through the placenta, umbilical cord and anterior fontanelle. The measures commonly adopted include "milk"ing the cord, heating the placenta, waiting for cord pulsations to stop before tying and cutting it, and blowing air into the anterior fontanelle (7-10). Of the participants in our study, 25% mentioned mouth-to-mouth resuscitation, removal of throat secretions, and keeping the baby upside down as important measures which had been learnt during the training. Thus the training of traditional birth attendants may not be a futile exercise, although in order to achieve better results it should be improved.

Management implications

The management of birth asphyxia by traditional birth attendants in the primary health care setting, using modern principles, is important because the transfer of asphyxiated babies to referral centres can cause irreparable damage. The management of birth asphyxia in the community setting requires birth attendants to be trained and provided with equipment. As a starting point, birth attendants who conduct, say, more than 30 deliveries a year, could be given a bag and mask and disposable mucus suction traps. Those who handle fewer deliveries, for example, relatives or birth attendants from small communities, could be given disposable mucus suction traps and could be trained in mouth-to-mouth resuscitation. These birth attendants must be made aware of the risk factors of birth asphyxia so that they can call in attendants who are trained and equipped to use bag-and-mask resuscitation in high-risk cases. It would be better to refer women at risk to centres where resuscitation facilities are available. Training should be given repeatedly because otherwise there may be a long gap between it and the first experience of birth asphyxia. Furthermore, people without formal education need repeated training if their retention of knowledge and skills is to be satisfactory.

Innovative teaching should include discussion on traditional methods in order to facilitate the introduction of modern resuscitative techniques and the discouraging of harmful practices. Dolls can be used in practical sessions aimed at improving skills. The appropriate
equipment for resuscitating asphyxiated babies comprises sterilized disposable mucus suction traps, which can be used to clear the airways of obstructing secretions. The method is recommended only for babies who do not breathe immediately after birth, who breathe weakly, or who cry feebly. Regarding the institution of modern resuscitative techniques in primary health care settings, it is important to ask whether this will lead to more cases of physically and mentally retarded individuals in communities reeling under the existing pressure of poverty, deprivation and squalor. Another possibility is that faulty use of bag and mask, involving the delivery of excessive air under pressure, may conceivably cause lung damage by producing pneumothorax or pneumomediastinum. It is unreasonable to expect the traditional birth attendant to give mouth-to-mouth resuscitation for up to half an hour, as this will tire her out. Furthermore, the mistakes made by mouth-to-mouth (or mask-and-mouth) resuscitation, may be similar to those produced by bag-and-mask resuscitation. Only carefully conducted evaluation in the field can help to solve these questions.

It is necessary to develop a standardized, acceptable, working definition of birth asphyxia. The many risk factors—medical, behavioural and therapeutic—which may have preventive implications, should be addressed as an integral part of case management.

In most developing countries and underprivileged populations, high neonatal and perinatal mortality is substantially attributable to stillbirths and deaths within the first 48 hours of life (11). Hence the need for improved management of birth asphyxia. Innovative training of traditional birth attendants should be backed up by supplies of essential resuscitation equipment for use in primary health care settings.

References