Integrated community-based postpartum care for mothers and newborns: a crucial intervention to achieve MDG 4 and 5

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1. Introduction:

Global commitment for reducing maternal and child mortality has been reaffirmed by the governments through the Millennium Declaration in September 2000. Emanating from the Millennium Declaration, commitment to eight Millennium Development Goals (MDGs) united countries around the world in the fight against poverty, illiteracy, gender discrimination, maternal and child mortality, infectious diseases (e.g. AIDS, Tuberculosis, Malaria), and environmental degradation. The targets for MDG 4 and MDG 5 are to reduce under-five mortality by two thirds and the maternal mortality ratio by three quarters between 1990-2015 [1].

The Maternal Mortality Ratio (MMR)\(^1\) in developing countries is estimated at 440/100,000 live births with 46 countries having an MMR greater than 500/100,000 live births [2]. Maternal deaths are those that occur during pregnancy, labor/delivery and in the postpartum period up to 42 days, from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy. Between 11% and 17% of such deaths happen during childbirth and 50% to 71% in the postpartum period. Most of the postpartum deaths occur immediately after delivery and during the first week of postpartum period [3].

The most common cause of maternal death is severe bleeding. Postpartum bleeding can kill a healthy woman within 2 hours, if she is not appropriately attended. Anemia, a common problem in developing countries can accelerate bleeding deaths with even less blood loss than the 500 ml that defines postpartum hemorrhage. The second most common direct cause is infection, responsible for most late postpartum deaths [4]. Though eclampsia, another major cause of maternal death is most common during the antepartum period, 20%-25% of eclampsia occurs in the postpartum period.

Causes of Maternal Death Worldwide\(^4\)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe bleeding</td>
<td>25%</td>
</tr>
<tr>
<td>Infection</td>
<td>15%</td>
</tr>
<tr>
<td>Unsafe abortion</td>
<td>13%</td>
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<tr>
<td>Eclampsia</td>
<td>12%</td>
</tr>
<tr>
<td>Obstructed labour</td>
<td>8%</td>
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<tr>
<td>Other direct causes</td>
<td>8%</td>
</tr>
<tr>
<td>Indirect causes **</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: World Health Report, 2005

Among the 10.6 million under-five deaths occurred annually throughout the world [5], more than 4 million die in the first 28 days following birth, the neonatal period. Not in this calculation are another 3.3 million stillbirths. Global estimates of the distribution of direct causes of neonatal deaths indicate that severe infections, preterm births, and asphyxia are the three major killers of neonates. More than 60% of neonatal deaths occur within 7 days of birth with the majority of these happening within the first 24 hours following birth [6].

\(^1\) The maternal mortality ratio is the number of women who die from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per 100,000 live births.
Many of these maternal and neonatal deaths occur to women and children who are at home with little or no care during delivery. Many women continue to receive little or no care in the immediate postpartum period. Fewer than a third of women in developing countries are estimated to receive any postpartum care. Most postpartum care received is provided at a time when there is little or no risk of death to the mother and newborn—around day 42 after childbirth. Moreover, newborns are often given less or no attention during postpartum visits. Given that the highest concentration of maternal and newborn deaths occurs in the community, at the time of delivery and within the first 24 hours of birth and that deaths continue to be high up to one week thereafter, it is surprising that there has been little focus on integrated community-based postpartum care to reduce these deaths [7].

What is integrated community based postpartum care?

Integrated, community-based postpartum programs are defined as those which include some or all of the following components: Provision of maternal and newborn care; monitoring for maternal and newborn postpartum complications and illnesses and managing or referring them, counseling of women and family members, i.e. mothers-in-law and husbands, on signs of complications associated with delivery or danger signs for postpartum mothers and neonates and where and how to access care; provision of family planning including lactational amenorrhoea method (LAM) for birth spacing; stabilize/manage or refer cases present on visits; breastfeeding counseling; nutrition counseling for mother and infant; linkage to immunization services; counseling on or referral for subsequent morbidities, such as anemia, postpartum depression, fistulas, prolapsed uterus, and infections [7].

Integrated community-based postpartum care is not only important to reduce mortality and morbidity of mothers and newborns, but it is also crucial to reinforce healthy behaviors. Healthy behaviors initiated around the time of birth are needed to ensure that both mother and baby continue to experience good health following birth. Decisions about many of these behaviors are likely to be formed by the mother during pregnancy. These behaviors include: timely initiation of exclusive breastfeeding, feeding of colostrum, exclusive breastfeeding through the first six months of life, extra feeding for small or sick newborns, normal newborn care (drying, warmth, delaying first bath), care for the small baby (nutrition, warmth, kangaroo mother care), immunizations for the baby (BCG, DPT, Polio, Hepatitis B), LAM and other family planning options for birth spacing, and hygiene for mother and newborn (care of cord, breasts, perineum).

2. Different approaches to community-based postpartum care

A review of the literature revealed 27 maternal and child health projects from a variety of countries with evaluations that provided some evidence of the effectiveness of their interventions having community-based postpartum care as a component. From these studies, three approaches to community-based postpartum care are identified. Within each approach, there is the potential for two distinct foci: one on the provision of services for management and referral of complications and illnesses that lead directly to death, and the second on counseling and services for the promotion of healthy behaviors.
Approach 1: Home visits by professional health care providers: There are national programs which include program components that aim to provide a wide range of care, not just counseling, directly to women in their homes by professional health care providers. National maternal and child health programs in Egypt, Indonesia, The Philippines, Zimbabwe, Nepal, India, and Bangladesh can be cited as examples of this approach [7].

Approach 2: Home visits by community workers: In this approach community workers deliver postnatal care at home with little recourse to referral. Many community-based neonatal mortality reduction programs have used this approach, such as those reported from India over the past two decades e.g. Neonatal mortality reduction projects in Sirur and Gadchiroli [7].

Approach 3: Home visits by community workers with referral or health facility support: This approach aims to reduce maternal and newborn deaths as well as promote health by linking community workers located closer to homes with facility-based providers. Home-based life saving skills (HBLSS) trials in Ethiopia and India were based on this approach as are the few postpartum care family planning programs [7].

Variations on these approaches exist in terms of components of care, cadres of workers, community activities, focus of activities etc.

3. What evidence is there that integrated community-based postpartum is beneficial?

Though many of the 27 projects with evidence of effectiveness are compromised by weak study designs and lack of statistical testing, the evidence available suggests that community-based postpartum programs can be effective in improving knowledge, changing behaviors (e.g. timely initiation of breastfeeding, exclusive breastfeeding, use of postpartum family planning methods including LAM, use of iron folate tablets) and reducing death rates, specifically neonatal mortality rates.

Published reports suggest that Approach 1 can improve healthy behaviors (exclusive Breastfeeding, early initiation of breastfeeding, use of family planning methods including LAM, iron folate tablet compliance, hygienic care, immunizations). The advantage of Approach 1 is that, professional health care providers are able to deliver the complete WHO package of postpartum services starting with an immediate postpartum visit. One study in Zimbabwe concluded that a midwife home visit program (on day 3, 7, 28, and 42 postpartum), reduced the prevalence of infant health problems and enabled mothers to take action when they identified an infant health problem [8].

Evidence from India suggests that Approach 2 can reduce neonatal mortality through prevention messages and case management for neonatal sepsis and pneumonia [9,10]. Other experiences from India [11] revealed that this approach can significantly improve early initiation of breastfeeding, exclusive breastfeeding, duration of exclusive breastfeeding, and reduce diarrhea through breastfeeding promotion efforts. Scaled up efforts in Africa also reported improved early initiation of breastfeeding and exclusive breastfeeding through a multi-level strategy [12].

Approach 3, which links community workers with referral support, may be effective in promoting birth spacing, linking recently delivered women with family planning services, and in transferring information to mothers about obstetric complications and the need for referral. Two developments in community-level interventions also hold promise for managing or preventing maternal deaths from hemorrhage, the most deadly of maternal postpartum killers: The Home-based Life Saving Skills (HBLSS) approach has shown that training of community workers (TBAs or others) can improve knowledge and practice related to maternal hemorrhage [13]. Another promising development is use of misoprostol by recently delivered women to prevent hemorrhage, as reported in Indonesia [14]. Trials of the HBLSS approach and the community-based use of misoprostol, however, are small and need to be scaled up.

4. How can community-based postpartum care be packaged?

Community-based postpartum care can be successfully integrated with existing maternal and child health programs in the following way:

- Many of the behavior change communication (BCC) messages (e.g. breastfeeding—immediate initiation of breastfeeding and colostrum feeding, exclusive breastfeeding, essential newborn care, hygiene and nutrition for mother and newborn, danger signs and information on where and how to seek care) should be initiated during prenatal care. These BCC messages can be reinforced during postpartum visit. Whether birth spacing messages should be started during prenatal care is debatable, but information on birth spacing obviously needs to be incorporated into postpartum care.
Policy Perspectives on Integrated Community-Based Postpartum Care

- The birth attendants must be trained to recognize and manage hemorrhage and birth asphyxia, the two most immediate killers of mothers and newborns respectively. Preventive techniques should also be part of their skills, such as active management of third stage of labour, use of the partograph, techniques of essential newborn care and small baby care.

- In the immediate postpartum period (days 1-7), hemorrhage remains the prominent threat for mothers, and smallness/poor sucking, asphyxia and infections for the newborn. Community health workers (CHWs), possibly including traditional birth attendants) could play a major role in recognition and treatment or recognition and referral. Lessons from Gadchiroli and the HBLSS approach show promise but need replication and evaluation on a larger scale. Having two attendants at birth and in the immediate postpartum period may be useful to attend to the needs of both the mother and newborn.

- In the later postpartum period, CHWs could follow-up the mother and newborn with special attention to the possibility of sepsis in both of them. Health promotion for continuation of exclusive breastfeeding, extra breastfeeds for the sick baby, LAM, birth spacing and family planning, breast and perineum care, and nutrition for the mother should also be provided.

5. Conclusions

It is obvious that each country will have to determine the actual configuration of their postpartum care package given the lack of uniformity in the skill level of service providers, use of services, resources, and infrastructures, socio-cultural context, among countries and even within countries. While developing or integrating postpartum care programmes, the policymakers will need to address the following issues in each setting:

- determine the barriers and facilitators to provision and use of postpartum care at all levels of health care and ways to respond to them,
- identify pregnant and just-delivered women who do not use formal health care services,
- components of postpartum care to integrate and how to phase integration; what is the postpartum care visit schedule; what mode of delivery of postpartum care should be used
- what could motivate staff to provide community-based postpartum care services, how to supervise such care, what is the required skill-level of CHWs to deliver postpartum care, whether training materials on postpartum care congruent with cultural context,
- when is it best to promote certain types of care (e.g. information on the health consequences of birth spacing),
- what communication strategy should be used for community-based postpartum care, and
- what are the costs of different components of postpartum care

More than likely, most countries have a postpartum care policy either at the facility or home. The postpartum care policy needs to make sure that women and newborns are the focus of attention of providers immediately after delivery and periodically throughout the first week and thereafter to ensure their survival and continued good health.

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