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Perspective

Social autopsy: a potential health promotion tool for preventing maternal mortality in low-income countries

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Abstract

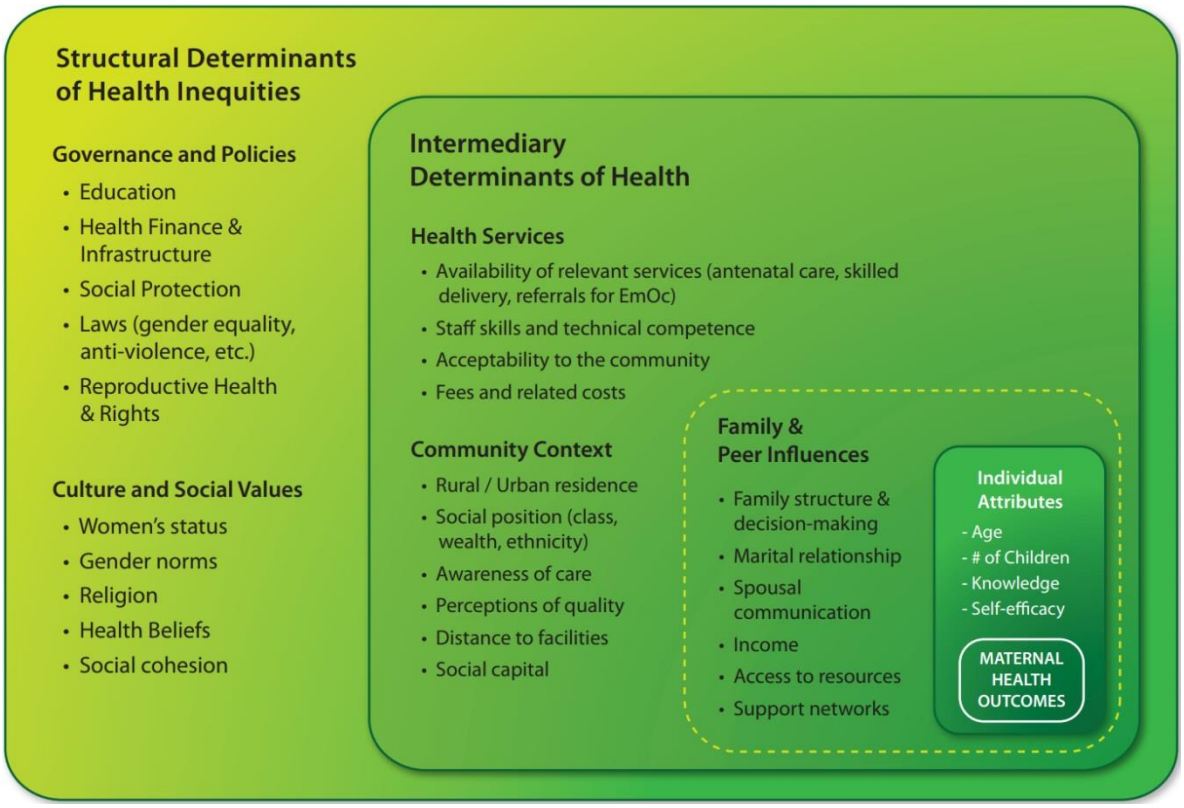
Despite significant global improvements, maternal mortality in low-income countries remains unacceptably high. Increasing attention in recent years has focused on how social factors, such as family and peer influences, the community context, health services, legal and policy environments, and cultural and social values, can shape and influence maternal outcomes. Whereas verbal autopsy is used to attribute a clinical cause to a maternal death, the aim of social autopsy is to determine the non-clinical contributing factors. A social autopsy of a maternal death is a group interaction with the family of the deceased woman and her wider local community, where facilitators explore the social causes of the death and identify improvements needed. Although still relatively new, the process has proved useful to capture data for policy-makers on the social determinants of maternal deaths. This article highlights a second aspect of social autopsy – its potential role in health promotion. A social autopsy facilitates "community self-diagnosis" and identification of modifiable social and cultural factors that are attributable to the death. Social autopsy therefore has the potential not only for increasing awareness among community members, but also for promoting behavioural change at the individual and community level. There has been little formal assessment of social autopsy as a tool for health promotion. Rigorous research is now needed to assess the effectiveness and cost effectiveness of social autopsy as a preventive community-based intervention, especially with respect to effects on social determinants. There is also a need to document how communities can take ownership of such activities and achieve a sustainable impact on preventable maternal deaths.

Keywords: health promotion, low-income countries, maternal death, prevention, social autopsy

Social autopsy and the social determinants of maternal death

Despite significant reductions worldwide between 1990 and 2015, hundreds of thousands of women are still dying due to complications of pregnancy and/or childbirth each year, and 99% of these deaths occur in low-income countries.[1] The estimated lifetime risk of maternal mortality in high-income countries is 1 in 3300 and 1 in 41 in low-income countries.[1] On 1 January 2016, the 2030 Agenda for Sustainable Development officially came into force.[2] The first target of Sustainable Development Goal 3 is to reduce the global maternal mortality ratio to less than 70 per 100 000 live births by 2030.[3] The leading clinical causes of maternal death during 2003–2009 were haemorrhage, hypertensive disorders and sepsis.[4] In line with increased focus on the social determinants of health overall, the importance of social factors associated with maternal health outcomes has received wider attention. Family and peer influences, the community context, health services, legal and policy environments, and cultural and social values have all been shown to shape and influence maternal outcomes (see Fig. 1).[5]

Fig. 1. Social determinants of maternal health



Source: Discussion paper. A social determinants approach to maternal health. Roles for development actors. New York: United Nations Development Programme; 2011. (http://www.undp.org/content/dam/undp/library/Democratic%20Governance/Discussion%20Paper%20Maternal Health.pdf).[5]

For years, in countries where vital registration systems are suboptimal, verbal autopsy has been a standard method for attributing a clinical cause to maternal deaths that have occurred in the

community.[6] Social autopsy is similar to verbal autopsy, in that it aims to identify factors related to maternal deaths through a structured interview process. However, it differs in that the main aim is to determine the non-biological causes of death, encompassing social, behavioural and intrinsic health-system contributors.[7–9]

To date, most studies of social autopsy have investigated the use of the process to identify the non-clinical factors involved in maternal, newborn and child deaths and, although still relatively new, the process has been highlighted as being useful to capture data on the social determinants of maternal death, in order to inform policy-makers on attributable health system factors.[7] Less discussed, however, is the potential role of social autopsy as a tool for health promotion. A social autopsy of a maternal death is a group interaction with the family of the deceased woman and her wider local community, where facilitators explore the social causes of the death, identify improvements needed, and communicate them within the community to aid future prevention.[10] The process therefore facilitates "community self-diagnosis" and identification of modifiable social and cultural factors that are attributable to the death. Social autopsy therefore has the potential not only for increasing awareness among community members,[11,12] but also for promoting behavioural change at the individual and community level.[13,14] This article explores the potential of social autopsy as a tool for preventing maternal deaths in low-income countries, thereby helping to address the first target of Sustainable Development Goal 3.[3]

The origins of social autopsy

Health-facility-based confidential inquiries into maternal deaths started as early as 1952 in the United Kingdom of Great Britain and Northern Ireland; these recognized the importance of social factors and examined them by constructing illustrative vignettes, or case-studies, of individual maternal deaths.[15] The "three delays" model of maternal mortality introduced by Thaddeus and Maine provided a framework for the development of maternal social autopsy tools by highlighting the social and behavioural chain linking the household, community and health system.[16] The World Health Organization (WHO) developed several methods for reviewing maternal mortality, including verbal autopsy, which highlighted the importance of social factors in its "beyond the numbers" campaign.[17] The strategies to improve child survival in the 1990s also began to recognize the importance of household and community factors in health promotion, disease prevention and treatment. This led to development of the Pathway to Survival Framework in 1995,[18] which acknowledged that management of most childhood illness occurs outside of health facilities and that caregiver recognition of illness and provision of care are critical components.[19] It also paved way for social autopsy in children. These advances in social autopsy played a crucial part in its development to its current state. The usefulness of social autopsy in modern health-care systems lies in its ability to: (i) increase knowledge and awareness regarding maternal and child mortality; (ii) empower community participation; (iii) increase the responsiveness and accountability of health programmes and provide large-scale population-level data; (iv) help policy-makers and health-care programmers to identify strategies for increasing health-promotive behaviours; and (v) improve access to and uptake of health services.[20]

Social autopsy to identify factors associated with maternal death

A recent systematic review on the use of social autopsy to understand maternal, newborn and child mortality in low-resource settings noted that, of the 17 articles included, five focused on maternal mortality.[9] The authors also identified five social autopsy research tools, with the two most commonly used instruments being the Child Health Epidemiology Research Group's social autopsy tool[21] and the combined verbal and social autopsy tool developed by the International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH Network) for neonatal and child deaths in Africa.[22] The four main gaps in the literature identified by the systematic review were the need for: (i) harmonized tools and analytical methods that allow for cross-study comparisons; (ii) discussions of the complexity of decision-making for care seeking; (iii) qualitative narratives that address inconsistencies in responses between studies; and (iv) the explicit inclusion of perspectives from husbands and fathers.[9] The systematic review also showed that cost, distance and transportation, although common barriers, are not the only obstacles to pregnant women and children receiving life-saving care. The reviewers emphasized the need to understand better these barriers and address them through locally appropriate means.[9]

Social autopsy in health promotion

Whereas social autopsy is used in the type of research described above to provide information to improve service delivery, to date, there have been no formal studies assessing the use of social autopsy as a health-promotion tool. However, there are examples where social autopsy is being used to support dialogue and health promotion in the community. This paper presents the procedures for social autopsy as part of the Maternal and Perinatal Death Surveillance and Response (MPDSR) system in Bangladesh.

This use of social autopsy was piloted in one district in 2010,[23] and has expanded countrywide since then. A facilitator (first-line supervisor, health inspector, assistant health inspector or family planning inspector from the Ministry of Health and Family Welfare) conducts a social autopsy session in the community after each verbal autopsy has been completed for a maternal or neonatal death or stillbirth in the community.[10] The discussion focuses on the social factors, issues and barriers surrounding that death that could have been avoided.[24] The session takes around 1 hour and is timed to enable the attendance of men, since they are usually the family decision-makers. The social autopsy is conducted in the presence of neighbours and relatives of the deceased. The facilitator also invites community leaders and local elected government leaders to participate, which creates a positive environment for collective community commitment to improving health-seeking behaviour.

Before conducting a social autopsy session, the time and place is fixed by the grass-roots-level government health worker (health assistant or family welfare assistant) who initially performed the death notification. He or she informs the community and sets a suitable date, time and preferred venue, based on the availability of neighbours. On the day of the social autopsy, the grass-roots-level health worker gathers the neighbours, community leaders and bereaved family members in the agreed location where the facilitator will conduct the session. Prior to the social autopsy session, the bereaved family is briefed on the process and their verbal consent is taken. In addition, before conducting a social autopsy session, the facilitator obtains verbal consent from all additional participants.

The facilitator, who will have received 2 days' training on social autopsy, including facilitation skills, conducts the session. Before starting the session, he or she describes the objectives of and expected outcome of the social autopsy. A non-blaming approach is maintained throughout the session and the facilitator ensures that discussion focuses on factors surrounding relevant social stigmas, barriers and challenges, without apportioning blame on any person, provider or institution. The facilitator who conducts the social autopsy usually works routinely in the area where the death has occurred, therefore he or she is very familiar with and to the community. This enables participants to feel confident in discussing these issues in front of government health workers. Following the social autopsy meeting, the health workers report back to the local administrative unit (upazila) and conduct regular follow-up in the course of their routine work with the community. Within the MPDSR system, there is a functional quality improvement committee at each administrative stage, i.e. at upazila, district, division and national level. The quality improvement committee is responsible for conducting regular follow-up on the response to a death and ensuring improvement.

A typical group comprises around 30–50 people. The session starts with family and neighbours describing in detail what happened before the death. From the description, a discussion evolves where participants are encouraged to explore and identify the social factors, issues and barriers surrounding the death that could have been avoided.[Error! Bookmark not defined.] The facilitator presents information, education and communication materials to show the community what they need to do if similar maternal or neonatal complications arise again. For example, during one social autopsy of a maternal death, the community learnt about the need for a skilled birth attendant, the dangers of postpartum haemorrhage and the need for rapid transfer to a health facility in these circumstances. A teenager who had attended that social autopsy commented:

> Nobody can stop me [choosing to] deliver by a trained birth attendant, now I clearly know about maternal complication. If I do any mistakes, me or my child may die. I know and understand from today's meeting, photos were displayed, it's now clear to me what I have to do in my case.[10]

Social autopsy and community health education

Promoting preventative messages during social autopsy of a maternal death helps participants to devise appropriate and achievable preventive strategies for their communities in line with the social causes that they have identified to have been associated with the death.[25] Social autopsy may thus encourage health promotion, as it makes people think of applying preventive strategies against such tragedies in future, as a result of health education conducted by health workers. The cardinal principle of health promotion is empowerment of people by providing the necessary information and helping them to develop skills so that they feel control over, rather than shattered by, external forces outside their sphere of influence.[26] A case-study that outlined the experiences of social autopsy as a community intervention tool in Bangladesh found that these sessions resulted in an increase in health-care seeking among women in pregnancy and after childbirth.[10] This indicates the potential effectiveness of social autopsy sessions as a health-promotion tool. The potential value of social autopsies in health promotion has been summarized as the ability to deliver effective health education sessions through:

- *knowledge building*: social autopsy forums provide an opportunity for health-care workers to interact with the community to promote optimal maternal and child health, including discussions about access to health-care services. These sessions are designed to address the learning needs of all community members, including those with poor literacy. Therefore, health-care workers utilize a range of teaching techniques such as pictorial presentations and role play, to maximize understanding;
- *community/self-reflection*: the open discussion nature of social autopsy promotes an opportunity for community as well as individual reflections on the actions or inactions that potentially contributed to a maternal and/or child death;
- *community empowerment*: social autopsy provides an opportunity to promote empowerment, with knowledge to improve attitudes and practices that promote health outcomes. The sessions provide community members an opportunity to interact and learn alongside different stakeholders and thus gain holistic knowledge for positive action in the future;
- *commitment generation*: a common practice in social autopsy fora is to provide an opportunity for participants to express their commitment to preventing future poor (fatal) health outcomes. Often, local community leaders, including government staff, have their commitments witnessed by the attending community participants.[10]

Conclusion and ways forward

Social autopsy provides a platform to bring people together in their community to build knowledge, and generate new ideas and open thinking for best planning based on the tragedy that has occurred. Communities themselves decide what to do, how to do it and when to act when such tragedies occur. Community leadership and empowerment also trigger the entire process and build a shared responsibility for each other. Above all, the findings not only identify the underlying problems but can also identify potential solutions. Such interventions may be more successful, since they are derived from the observations and experiences of social autopsy participants and thus have ready-made community ownership.

Owing to differences in the environmental, socioeconomic and cultural contexts in which people live, the circumstances of deaths beyond their clinical manifestations may vary. Social autopsy shows promise as a tool not only for elucidating these non-clinical factors but also for promoting community behaviour change to prevent recurrence. Rigorous research is now needed to assess the effectiveness and cost-effectiveness of social autopsy as a preventive community-based intervention, especially with respect to the effects on social determinants. Similarly, there is also a need to document how a community can take ownership of such activities and achieve a sustainable impact on preventable maternal deaths.

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