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Abstract

Background: Maternal mortality is considered as unacceptable death.

Aims: This study aimed to analyse the agenda setting process for maternal mortality reduction policies in nine successful countries in achieving Millennium Development Goal 5 (MDG 5) using the Kingdon's multiple streams theory.

Methods: This comparative study analysed the agenda setting process in nine successful countries which achieved MDG 5. The agenda setting analysed the use of the Kingdon's multiple streams model. To extract similarities and differences in the agenda setting process, the content analysis method, available documents and reports, and the comparative table were used.

Results: The initial attention to the problem of high rate of maternal mortality was different in the studied countries, but MDGs and the countries' official reports were the main driver. Political stability, political will, key person's contribution and legislation were considered influential factors strengthening political stream. International technical or financial support, regional and international conferences, national plans and enabling factors, which provide technical feasibility, were the most important factors influencing the policy stream. Enabling factors included approving regulations and legislation, increased quantity and quality of human resources, organizational structure, service delivery enhancement, infrastructure development, providing medicines and equipment, and strengthening health information system.

Conclusions: The three streams: problem, policy and politics are not separate from each other. Political stability and commitment, having a national plan and benefiting from technical or financial support of international entities was a common feature among almost all the studied countries. The key actions leading to the opening of the window of opportunity were those actions that led to highlighting the problem.

Keywords: Maternal mortality, agenda setting, Kingdon's model, comparative study

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Introduction

Despite the advances made in reducing maternal mortality in recent decades, the elimination of avoidable deaths is considered as a vital concern and an agenda for policy makers (1). The analysis of related policies helps overcome existing defects and select appropriate solutions. In recent years, the use of policy-making models and frameworks in retrospective and prospective analyses of health policies and policy analyses in a systematic way have been published globally (2). One of the prestigious theories is the Kingdon's multiple streams theory. The Kingdon's model addresses how some issues are placed on the agenda (3).

Millennium Development Goals (MDGs) are eight common goals that were adopted in the United Nations by 189 countries in 2000 and should have been achieved by 2015. The fifth goal is maternal health improvement. According to the report 2015, nine countries – Bhutan, Cabo

Verde, Cambodia, East Timor, Islamic Republic of Iran, Lao People's Democratic Republic, Maldives, Mongolia and Rwanda were mentioned as successful countries in achieving MDG 5 of reducing maternal mortality rate (4). This analytical study aims to explore the process of agenda setting for the issue of reducing maternal mortality in these countries using the Kingdon's theory.

Methods

This descriptive-comparative study analyzed the development of agenda setting process of maternal mortality reduction based on the Kingdon's multiple streams model in nine successful countries. Required data that shape the problem, political and policy streams for maternal mortality in selected countries was gathered through reviewing national and international documents and reports published in valid scientific databases and electronic portals such as the World Health Organization (WHO) and upstream documents dated before 2015. Lack of documents about Cabo Verde was the main difficulty in gathering the information, especially since most of the documents were in either French or Spanish. The content analysis method and the comparative table were used to analyse the data.

The Kingdon's multiple streams theory emphasizes agenda setting and includes three independent streams that when joined together (Figure 1), they open a window of opportunity. The first stream, referred to as problem stream, is related to the problems, issues or challenges that have attracted the attention of society. The second stream, policy stream, addresses the policy options that researchers, stakeholders and executive bodies propose to solve the problem. Political transitions, specific national situations and social pressures all belongs to main elements of the third stream, i.e., the politics stream. At certain points, the streams come together and offer a window of opportunity for governments to decide how to address the issue at hand (3). Findings from each country were extracted and summarized using the comparative table. Then factors involved in the process of agenda setting were assessed using the content analysis method and the comparative table (Supplementary Tables 1-3)
Table 1
,
Table 2
, and
Table 3
.

Results

Problem stream

The findings of this study showed that international entities' advocacy drawing governments' attention to a specific issue has played an important role in highlighting the problem of maternal

mortality in the process of agenda setting. In all selected countries, the problem has been highlighted since 1990. Several main factors led to reveal the problem; publishing the progress report of MDGs at country level highlighted the maternal mortality issue in these countries. A clear example can be observed in Bhutan (5), East Timor (6), Rwanda (7), Lao People's Democratic Republic (8), Maldives (9), Mongolia (10) and Cambodia (11). Also, conducting a national survey on maternal mortality and publishing the results in the Islamic Republic of Iran (12) and Cambodia (13) played an important role in highlighting the issue.

Political stream

The approach to shaping the political stream in the current study implied political stability, political will, key person's contribution and legislation. All the studied countries, were in a state of political stability and peace, in the process of agenda setting (12,14–20) and enjoyed the commitment of statesmen in all of these countries (5,10,12–15,21–25).

Key persons contributed in leading MDGs and in some cases specifically played a significant role in reducing maternal mortality, for example, the First Lady of Rwanda played a key role in leading policy-makers and planners to reduce maternal mortality through announcing the campaign of "Accelerating maternal mortality reduction" in 2009 and holding a meeting with high-level officials to this end (26). In addition, the Representative of the United Nations Population Fund in Bhutan played a special role in advocacy for reducing maternal mortality (14). Among the studied countries, two implemented interventions on legislation; in Mongolia the Public Health Policy was approved by its parliament in 2001 with the emphasis on access to reproductive health services for vulnerable groups and remote areas (27); and in Cambodia the Abortion Act was approved in its parliament in August 1997 (23).

Policy stream

The assessment of the policy stream in the agenda setting for maternal mortality reduction in this study included international technical or financial support, regional and international conferences, national plans and enabling factors which provide technical feasibility. All nine countries took advantage of technical or financial support from international organizations in the process of agenda setting (6,13,14,18,19,22,26,28). This study indicates that the concerns for maternal mortality were communicated to officials via international and regional conferences.

For example, officials from the Lao People's

Democratic Republic participated at the International Conference on Population and Development in Cairo (19); officials from Cambodia participated at the Safe Motherhood Conference in Kenya (13); officials from Rwanda participated at the 4th Africa Ministerial Conference in Addis Ababa (26); the East Timorese independence leader, who later became

the first president, participated at the General Assembly for Millennium Development Goals in September 2000; and officials from East Timor participated in the Regional Conferences of the United Nations Development Fund on MDGs in Bangladesh in February 2003 (6). In addition, there was a well-defined plan in maternal mortality reduction in eight countries: Mongolia (22), Maldives (25), Lao People's Democratic Republic (19,24), Cambodia (13), Rwanda (26), Bhutan (5), Cab Verde (15), Islamic Republic of Iran (28).

In the current study, enabling factors that make technical feasibility and shape policy stream included organizational structure, human resources, services, medicine and medical equipment provision, and health information system. Three of the studied countries implemented interventions on organizational structure. For example, the Mother and Child Health Office was established in the Ministry of Health in the Islamic Republic of Iran (12); the National Mother and Child Commission was established in the Lao People's Democratic Republic (54); and a Mother and Child Unit was established within the Ministry of Health structure in East Timor (6).

Interventions to increase the number of human resources in the domain of mother and child health were implemented in six of the studied countries including Maldives (16), Rwanda (26), Islamic Republic of Iran (28), East Timor (6), Cambodia (25) and Mongolia (18); and interventions in empowering human resources were conducted in four countries: East Timor (6), Maldives (16), Islamic Republic of Iran (28) and Mongolia (18).

In all the studied countries, interventions have been implemented to improve service provision in maternal health (5,6,8,15,16,18,22,23,28). Interventions have been also implemented to provide medicines and pharmaceutical products in Maldives (16), Lao People's Democratic Republic (19), Bhutan (5,29) and Mongolia (18); and interventions on health information systems implemented in Maldives (16) and Rwanda (26) by launching a maternal mortality audit system.

Opening a window of opportunity

Special events resulting in joining policy, politics and problem streams and opening a window of opportunity varied in the nine countries. In four countries, including Islamic republic of Iran (12), Bhutan (5), Cambodia (13) and Lao People's Democratic Republic (8), the window of opportunity opened after publishing the results of monitoring maternal mortality after considering MDGs. In two countries, Rwanda (22) and Cabo Verde (15), holding the advocacy campaign for maternal mortality reduction led to joining the three streams, and in Maldives (16) launching the maternal mortality audit was the joining point. In East Timor (20), holding a three-day training

workshop aimed at raising public awareness for MDGs, situation analysis and assessment of relationship between goals of the national development plan with MDGs led to open the window of opportunity. In Mongolia, the development of maternal mortality reduction strategy was the opening of the window of opportunity (18) (Figure 2).

Discussion

Nine countries achieved the MDG 5 regarding maternal mortality reduction. Agenda setting of maternal mortality issue in these countries were analysed based on the three problem, policy and politics streams of Kingdon's model. Generation of evidence played a very important role in advocacy, planning and policy-making for maternal mortality reduction in low- and middle-income countries (30). This factor plays a significant role in highlighting the issue, convincing policy-makers and motivating elites (31).

Problem stream

In this study, using evidence to reveal the problem, convincing policy-makers and motivating elites have played a role in highlighting the problem. Thus, in six of the selected countries, the published progress report on the status of MDGs helped to shape the problem stream in the agenda setting process. In two countries, dissemination of the maternal mortality auditing report has also highlighted the problem. The assessment of the role of policy in achieving MDGs can be a guide to identify existing barriers and problems and facilitate the modification of current public policies to better achieve goals. The direct effects of the role of government in maternal and child mortality have been proved (32).

Political stream

In the current study, the approach to shaping the political stream implied political stability and political will to reduce maternal mortality in all nine countries. The political instability threatens maternal health by damaging health infrastructure and restricting transportation (33). In six of the studied countries, key persons contributed in leading MDGs, and in some cases specifically played a role in reducing maternal mortality. The support from country leaders and influential individuals, and its impact on agenda setting of issues related to maternal health, can be due to their influence (32). Policy-makers are more effective when they are led by leading people in the field of maternal mortality. Other countries' experience in this area confirmed this observation (2,31).

The assessment of those countries having an accelerated trend in maternal mortality reduction

revealed the importance of rules and legislation in the domain of mother and child health (34). In this study, two countries approved legislation related to maternal health.

Policy stream

Some studies mentioned the positive role of international financial aid in countries with accelerated trend of mother and child mortality reduction (31). All the studied countries took advantage of technical or financial support from international organizations, which might have facilitated agenda setting. A set of international conferences by the United Nations since 1990 also indicated the reaffirmation of global commitment to reduce maternal mortality (31). International innovative plans also created concerns regarding maternal mortality issue among many national health officials (35). In the current study, holding international and regional conferences in five countries and training workshops in two countries were among the influential factors.

It was noted that having a national plan specifying national priorities results in a targeted budget allocation, a shared common understanding of activities and a basis for accountability of community leaders and directors (36). Some of the successful countries included the achievement of the MDGs related to mother and child health in their priorities of national plans (30). This study finds that there was a well-defined plan in maternal mortality reduction in eight countries.

Although in some studies (30) having a specific structure within the governance domain was considered an effective success factor due to the creation of accountability, effectiveness and coordination, yet in the assessments no clear association was found between the existence of these structures and success in maternal mortality reduction. In two of the studied countries, an organizational structure responsible for addressing maternity health has been established.

Studies provide evidence of the direct and positive impact of the number of staff on health consequences (37). In many countries, mother and child mortality reduction resulted from the increase in key human resources' coverage in the domain of mother and child health (38). However, merely increasing the number of staff is not sufficient. Some studies indicated the importance of training, surveillance of staff and investment in improving the education system in the provision of midwifery emergency services (39). Interventions to increase the number of human resources were implemented in six of the studied countries and empowering human resources were conducted in four of these countries.

Strengthening the service delivery system to achieve MDGs is vital. These services include interventions that decrease mother and child mortality (30). In the current study, before opening the window of opportunity, all the countries implemented interventions in the domain of service delivery, primarily increasing access to and coverage of services and strengthening the technical feasibility of agenda setting.

A major part of mother and child mortality reduction was related to the improvement in access and receiving medicines and pharmaceutical products in the field of mother and child health and reproductive health. Four countries implemented interventions in providing medicines and pharmaceutical products. National efforts to reduce mother and child mortality depend on strengthening information systems and generating evidence for decision-making through assessment and evaluation mechanisms (30). A maternal mortality audit has been established in two of the countries.

Finally, it can be said that highlighting the issue (problem stream) had a significant impact on joining the three streams and opening the window of opportunity. The generation and use of evidence led to convincing policy-makers, motivating elites and drawing people's attention. However, effects of other streams on opening the window of opportunity cannot be ignored. The assessment of policies that led to success and stakeholder analysis was not intended in this study. Conducting qualitative research in each of these countries can provide more details in this regard. Also, the mentioned actions in each of these countries, in terms of time, took place before opening the window of opportunity. Comparison of the agenda setting process between the countries that achieved MDG 5 and the other countries would provide more evidence, but was not the focus of this study and could be addressed in future research.

Conclusion

The maternal mortality problem was placed on the agenda of policy-makers in the studied countries after international entities began agenda setting at the international level. This resulted in sensitization of officials and their commitment to reduce maternal mortality. Political stability and commitment, having a national plan, and benefiting from technical or financial support of international entities were common features among almost all the studied countries. Measures that strengthened health systems by providing health infrastructure, trained staff, information systems etc. create an enabling environment to address a problem and facilitate agenda setting.

An important reason for placing the issue of maternal health on the agenda of policy-makers is to highlight the issue by one of the three streams; strengthening one stream can strengthen others and all three should be strengthened together. The key actions leading to the open

window of opportunity for maternal mortality reduction were those that led to highlighting the problem, generating evidence and its publication, and drawing the attention of policy-makers and planners. However, the impact of other streams cannot be ignored.

The model-based approach through the application of the Kingdon's model has been useful for the scrutiny of influential factors on agenda setting and this experience can be applied to the analysis of other policies. Analysing the experiences of the selected countries offers guidance on how political priorities can be generated for maternal mortality and other health problems.

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Analyse de la définition des enjeux prioritaires pour la réduction de la mortalité maternelle : exploration des facteurs influents à l'aide du modèle des flux de Kingdon

Résumé

Contexte : La mortalité maternelle est considérée comme inacceptable.

Objectifs : La présente étude visait à analyser le processus de définition des enjeux prioritaires dans les politiques de réduction de la mortalité maternelle dans neuf pays qui ont réussi à réaliser le cinquième objectif du Millénaire pour le développement (OMD 5) en utilisant la théorie des flux multiples de Kingdon.

Méthodes : Cette étude comparative a analysé le processus de définition des enjeux prioritaires dans neuf pays qui ont réussi à réaliser l'OMD 5. Ce processus a permis d'analyser l'utilisation du modèle à flux multiples de Kingdon. Afin d'extraire les similitudes et les différences dans la définition des enjeux prioritaires, la méthode d'analyse du contenu, les documents et les rapports disponibles, ainsi qu'un tableau comparatif ont été utilisés.

Résultats : L'attention initiale accordée au problème du taux élevé de mortalité maternelle était différente dans les pays étudiés, mais les OMD et les rapports officiels des pays en étaient le principal moteur. La stabilité et la volonté politique, la contribution des personnes clés et la législation ont été considérées comme des facteurs influents qui renforcent le courant politique. L'appui technique ou financier international, les conférences régionales et internationales, les plans nationaux et les facteurs favorables, qui assurent la faisabilité technique, étaient les facteurs les plus importants qui influencent le courant politique. Les facteurs habilitants comprenaient l'approbation des règlements et des lois, l'augmentation de la quantité et de la qualité des ressources humaines, la structure organisationnelle, l'amélioration de la prestation des services, le développement des infrastructures, la fourniture de médicaments et de matériel et le renforcement du système d'information sanitaire.

Conclusions : Les trois flux du modèle – problème, stratégie et politique – ne sont pas séparés les uns des autres. La stabilité et l'engagement politiques, le fait d'avoir un plan national et de bénéficier de l'appui technique ou financier d'entités internationales sont des caractéristiques communes à presque tous les pays étudiés. Les mesures clés qui ont conduit à l'ouverture de la fenêtre d'opportunité sont celles qui ont permis de mettre le problème en évidence.

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