

Effective strategies for reducing maternal mortality in Isfahan University of Medical Sciences, 2014

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ABSTRACT

Background: Maternal mortality rate is among the most important health indicators. This indicator is a function of factors that are related to pregnant women; these factors include economic status, social and family life of the pregnant woman, human resources, structure of the hospitals and health centers, and management factors. Strategic planning, with a comprehensive analysis and coverage of all causes of maternal mortality, can be helpful in improving this indicator.

Materials and Methods: This research is a descriptive exploratory study. After needs assessment and review of the current situation through eight expert panel meetings and evaluating the organization's internal and external environment, the strengths, weaknesses, threats, and opportunities of maternal mortality reduction were determined. Then, through mutual comparison of strengths/opportunities, strengths/threats, weaknesses/opportunities, and weaknesses/threats, WT, WO, ST, and SO strategies and suggested activities of the researchers for reducing maternal mortality were developed and dedicated to the areas of education, research, treatment, and health, as well as food and drug administration to be implemented.

Results: In the expert panel meetings, seven opportunity and strength strategies, eight strength and threat strategies, five weakness and threat strategies, and seven weakness and opportunity strategies were determined and a strategic plan was developed.

Conclusions: Dedication of the developed strategies to the areas of education, research, treatment, and health, as well as food and drug administration has coordinated these areas to develop Ministry of Health indicators. In particular, it emphasizes the key role of university management in improving the processes related to maternal health.

Key words: Iran, maternal mortality, pregnancy, strategic plan, strategy

INTRODUCTION

Maternal mortality is defined at the national and international levels as the death of a woman during pregnancy, childbirth, or within 42 days after

termination of pregnancy—regardless of the duration and site of the pregnancy—for any reason related to or aggravated by pregnancy.^[1] For the measurement of maternal mortalities, maternal mortality ratio (MMR) is used.^[2] This index, as one of the most important health indicators, quantitatively shows the number of pregnant women deaths in 100,000 live births. Different social, economic, political, and cultural factors are effective in decreasing or increasing this rate.^[3]

Because of its great importance, maternal mortality index is considered as one of the development indicators. The reason is that reduction of this type of death indicates the presence of an integrated health system and the development of economic and social infrastructure as well as public access to this development.^[4]

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Based on the UN Millennium Development Goals, maternal mortality rate should be decreased to 75% by the year 2015, compared with the baseline (1999).^[5] Therefore, to achieve this goal, countries should have an average annual decrease of 5.5% in their maternal mortality rate.^[6]

According to the latest report of the World Health Organization (WHO) in 2013, the rate of maternal mortality was 150 deaths per 100,000 live births in 1999, while it is 22.4 deaths per 100,000 live births now.^[7]

According to WHO, this amount is acceptable; however, according to the general agreement of policymakers on preventability of all deaths,^[8] the need for strategic and comprehensive interventions is felt to prevent these deaths.

Strategic planning has been defined as an organized and regular effort in order to make proper decisions and venture into fundamental actions. It is designed by an organization's senior executives and is considered one of the ways to help the organization and societies to deal effectively with the changing situation in the world.^[9] This program, through determining organization's mission, analyzes internal and external situations of the organization^[10] and, through creating strategic balance between the strengths, weaknesses, opportunities, and threats,^[11] specifies long-term strategies and objectives.^[10]

Management science studies have shown that strategic planning, by determining organization's future orientation and developing effective strategies, specifies priorities and, thereby, provides a tenable basis for decision-making. Moreover, it improves organizational performance in order to deal effectively with the ever-changing circumstances.^[9]

Given the effects of complications and damages caused by maternal mortality on children's health, and owing to the fact that no independent strategic plan has been developed in Isfahan province to reduce maternal mortalities, and since strategic planning in each province should be developed in accordance with that province's economic, social, and cultural conditions, independent development of this program seems necessary. Changes in national policies to increase birth rate without a comprehensive and strategic planning of maternal health, a warning of increase in maternal mortality rate, emphasizes the preparation of this plan more and more.

It seems that this type of planning, because of its comprehensive reviews of the social, economic, and cultural aspects, makes valuable interventions possible in order to reduce mortality rate of the pregnant women. Therefore, the researcher, after needs assessment and review of the

current situation, held expert panel meetings for reducing maternal mortality in order to improve this health index. Doing this, the researcher aimed at improving the quality of organizational services through overcoming barriers to prenatal care and safe delivery.

MATERIALS AND METHODS

This research is a descriptive exploratory study. After needs assessment by using the questionnaire of maternal mortality needs, which has been prepared based on library studies (review of literature), checking the files of last 5 years on maternal deaths in Isfahan, and reviewing the deficiencies and interventions related to these files, the needs related to maternal mortality were prioritized based on the comments collected from managers and administrators. Then, checking the internal and external environment of the organization, determining the strengths, weaknesses, threats, and opportunities of reducing maternal mortality, and setting strategies by strengths, weaknesses, opportunities, threats (SWOT) method, the draft of the program was prepared by a group of researchers at the Faculty of Nursing and Midwifery in five sessions. Next, it was approved by the head of the Faculty of Nursing and Midwifery, his deputies, and the faculty members; finally, it was sent to and approved by the representative of the head of Isfahan University of Medical Sciences, who is the research deputy of the university, and three sessions of expert panel meetings were held by the health deputy. Then, after discussion and expression of views of different areas and doing corrections, strategies were developed and assigned to the areas of education, research, treatment, and health as well as food and drug administration to be implemented.

Ethical considerations

All subjects in the study were free to accept or reject and data were analyzed fairly and without prejudice.

RESULTS

During the expert panel meetings and after determining the mission and new perspective of the Isfahan University of Medical Sciences to reduce maternal mortality, seven opportunity and strength strategies, eight strength and threat strategies, five weakness and threat strategies, and seven weakness and opportunity strategies were determined and a strategic plan was developed.

Mission

The plan of reducing maternal mortality rate is designed to provide the best care before, during, and after the pregnancy of women to terminate death and disability in this vulnerable population. In line with the health system

reform program that has a special attention to eradicate the preventable causes of maternal mortality, custodians of this program try to take advantage of the existing facilities and conditions to improve the current processes. Safe and physiologic delivery, technical and academic promotion of service providers, considering fundamental interventions and changes in the processes and planning of education areas, identifying systematic defects at environmental and managerial levels, utilizing services of the private sectors, and supporting the right decisions in line with maternal health are among the objectives and policies of this plan.

Perspective

Isfahan University of Medical Sciences is going to provide clear and transparent policies in line with health system reform program in order to reduce maternal mortality during pregnancy and after childbirth, obstetrical emergencies, and management and accreditation issues to improve the health of this group of women. Moreover, this university hopes to win first rank in Iran in terms of reducing maternal mortality index.

SO strategies (strengths/opportunities)

These strategies include organizing and strengthening maternal mortality care system, promotion of safe and physiologic childbirth, enhancement of research projects related to maternal death, academic and technical promotion of obstetric residents and medical and midwifery students, creation of an effective risk management system to identify systematic defects in managerial and service levels (promotion of the culture of systematic approach to problem solving), development of systems for network access of pregnant women (blog), and expansion of public education programs by using collective strategies.

WO strategies (weaknesses/opportunities)

These strategies include organizing team activities of the specialists, academic and technical promotion of obstetricians and gynecologists, general practitioners, and midwifery personnel, organization of monitoring and evaluation system in clinics, improvement of healthcare services pattern, providing the opportunity for identification and protection of addicted mothers, financial support of Afghan mothers, and the use of interventional strategies to prevent the defects.

WT strategies (weaknesses/threats)

Change in prenatal counseling and care processes, support for poor mothers in the outpatient department, assignment of low-risk and without interference delivery to midwives, supporting family physician plan in rural and marginal urban areas, and following the implementation of urban family physician are among these strategies.

ST strategies (strengths/threats)

Academic and technical promotion of pre-hospital staff (115), integration of services in different areas of service delivery, modification of fetal screening process, completion of certain professor protocols through the use of other professionals in the area of maternal health, extending the culture of using safe motherhood plan, providing pregnant women with social services of the Welfare Organization (123), improvement of the process of providing healthy reproductive services in pharmacies, and reinforcement of monitoring and evaluation system in pharmacies are among these strategies.

At the end, the strategies in the areas of education, research, health, treatment, and food and drug administration were separated based on each area's circumstances to develop operational programs.

DISCUSSION

Strategic plan is a process that, through determining the mission and perspective of the organization and analyzing the internal and external situations, specifies strategies and long-term objectives of the organization.^[10] In this program, organization leaders anticipate the changing environment and formulate the necessary functions and methods to achieve their long-term objectives.^[12]

It seems that the strategic plan of reducing maternal mortality, through equipping organization's resources and uniting its efforts in attaining long-term objectives, and also because of its ability to analyze internal and external possibilities and limitations together with its comprehensive evaluations to implement health system reform program that is considered as a reform for the university, can lead to maternal mortality reduction.

Meda *et al.* suggested in their study that dynamic management and strategic plan can improve the quality of care in hospitals and, consequently, reduce mortality rate of the hospitalized patients and improve access to services, particularly for the vulnerable groups.^[13]

In a study conducted by Saleh *et al.*, it was found that the implementation of strategic plan, compared with other programs some of which are less applicable, has more flexibility to cope with the environmental changes in healthcare environments with limited financial resources and political and economic fluctuations.^[14]

Achem *et al.* showed in their study that strategic support plays a significant role in the development and implementation of the programs investigating the causes of maternal mortality in Nigeria.^[15]

In 2013, Mody *et al.* showed that strategic planning has been successful in several Asian countries to promote the introduction of evidence-based guidelines for reproductive health.^[16]

In 2013, Krawczeski and McDonald showed in their study that development and implementation of strategic planning has positive effects on clinical improvement and increases the academic productivity and financial stability.^[17]

In 2013, Zindin R *et al.* emphasized in their study the importance of dealing purposefully with problems by formulating and implementing strategic planning.^[18]

In this program, seven strategies of strength and opportunity (SO), eight strategies of strength and threat, seven strategies of weakness and opportunity, and five strategies of weakness and threat have been developed.

Strategies of SO are considered as aggressive strategies. These strategies exploit the strengths of the organization to take advantage of external opportunities.^[19]

SO strategies are valuable in achieving organizational objectives; they help the organization go ahead with all its power to achieve its objectives.

Regarding these strategies, Isfahan province, in line with other provinces, has begun the implementation of some of these strategies in the form of intervention strategies and programs. Although this is valuable, owing to the lack of cohesive activities in this area and as these strategies are not evaluated by a special team, it has not been able to help the university achieve its ideal objectives. The incidence of the avoidable deaths confirms this claim. Regarding these strategies, many studies have confirmed the necessity of applying them.

According to these studies, some effective strategies in preventing maternal deaths consist of review of maternal mortalities,^[20,21] women's knowledge about the risks of cesarean section, induction of labor and childbirth preparation classes, painless delivery, consulting sessions and elimination of fear of and anxiety about vaginal delivery,^[22,23] students' training with an emphasis on evidence-based practice, adherence to the protocols, simulation of managing acute diseases, early detection and referral management of mothers,^[24,25] planning based on research to identify the obstacles to access high-quality clinical services and cares,^[26,27] design and implementation of an effective system of risk management to improve safety,^[28,29] raising the level of public awareness, and increasing the level of women's education.^[30-35]

Strategies of weakness and opportunity are conservative. The aim of these strategies is to modify the internal weaknesses by using external opportunities.^[19] Unlike some aggressive strategies, the creation and setting up of new programs is less likely in these strategies; instead, most activities are designed to modify or reinforce previous programs, and enhance cooperation with other beneficiary organizations which have the necessary capabilities in this field. In these strategies, error is considered as the undeniable component of healthcare system. Therefore, ministerial programs and organizations which are reviewers of errors are called up, so that in cooperation with them, we can review the errors systematically and learn from them. Afghan mothers and addicted mothers are considered as parts of health indicators and helping them is a national duty. To help these women, we can call the assistance of the supportive organizations and use specialized boards of evaluation in the fields of gynecology and obstetrics, midwifery, and reproductive health, national planned programs related to maternal health, constant and appropriate communication of maternal health department of the health ministry with other healthcare areas, and the cooperation of different departments of the Ministry of Health with the university in order to improve maternal health, promote academic skills of physicians and midwives, improve the pattern of healthcare services, and organize team activity of the experts.

Regarding these strategies, there are some studies which confirm the necessity of using these strategies:

According to these studies, strategies for reducing maternal mortality rate include cooperation and team decision-making,^[36,37] continuous training courses to enhance the knowledge and skills of the personnel,^[35,38-41] officials' control over the quality of the services provided by physicians and midwives in private clinics,^[42] investment on the areas of management, regulations, training, midwives' workplace, and evaluation of midwifery units,^[43,44] the use of government services to address the addiction of pregnant women,^[3] ensuring access to health services and patients' financial ability,^[45,46] identification and analysis of human errors, and the use of standard protocols and checklists instead of memory.^[25,28]

Threat and weakness strategies are defensive tactics which aim at reducing internal weaknesses and avoiding external threats. Organizations faced with numerous external threats and internal weaknesses may be forced to merge with each other or dissolve.^[19]

However, considering these strategies in the program does not mean that a specific organization is a threat to us and

intends to compete with and defeat us with regard to the maternal health program. Clearly, effort to protect and promote health of the vulnerable group of women is a global action, and maternal mortality index is an important index in the development and health of the societies. Thus, it is expected that all organizations and institutions join us in this direction.

What is considered threatening are some defects of healthcare processes as well as the problems and weaknesses of pregnant women in the areas of awareness, attitudes, and care-related cultures. The most important strategy in this part is to assign vaginal delivery to midwives, since according to stakeholders, the expansion of cesarean culture is mostly due to the lack of confidence in midwives for natural or vaginal delivery and the tendency of gynecologists to perform cesarean section. In order to provide the high-risk pregnant women and the residents of remote areas, who experience more childbearing, with better services, family physician plan was supported in rural and marginal urban areas.

Owing to the low awareness of the society about the pre-pregnancy cares and inadequate trust of women to get these services at healthcare centers, and inadequate attention to pre-pregnancy cares in public and private fertility centers, as well as the high probability of underlying diseases in pregnant women caused by increased age of marriage, modification of consulting processes and pre-pregnancy cares has been considered. Moreover, in order to follow-up high-risk mothers in cities, we recommend the accelerate the plan of family physician in urban areas. Regarding these strategies, there are many studies that confirm the necessity of applying them.

According to these studies, effective strategies in preventing maternal deaths include preventing unwanted pregnancies, doing pre-pregnancy cares and monitoring pregnant women with underlying diseases,^[3,30,47,48] training and employing the required number of midwives, accurate and comprehensive implementation of family physician,^[42,49,50] and follow-up of the high-risk mothers by health staff.^[30,36]

Strength and threat strategies use an organization's strengths to avoid or reduce the negative effects of external threats.^[19] These strategies are competitive, which is in conflict with the issue of maternal health, because there are national and international agreements regarding maternal mortality reduction programs. Therefore, for the implementation of this program, not only there should be no competition between different organizations, but also they should cooperate to achieve this objective.

As it was mentioned, maternal mortality-related university threats are, in most cases, related to the culture and lifestyle

of pregnant women and usually cannot be removed or eliminated. Therefore, through improving service processes in different departments (health, treatment, food and drug administration), many death-related factors can be eradicated. Regarding these strategies, there are many studies that confirm the necessity of applying them.

According to these studies, effective strategies in preventing maternal deaths include proper management of obstetric emergencies in appropriate referral performance, and appropriate use and access to health centers,^[51,52] sending instructions and clinical guidelines related to maternal mortality to all public and private centers and developing certain professor protocols to be used by teamwork gynecologists,^[42] improvement of maternal care in both public and private systems,^[27] and design and implementation of programs related to safe pregnancy.^[53,54]

CONCLUSION

It seems that strategic planning, with a focus on information about internal and external possibilities and limitations of Isfahan University of Medical Sciences in reducing maternal mortality, can predict the environmental changes caused by national policies regarding the increase of number of births and determine the future direction of Isfahan University of Medical Sciences to improve maternal health. Thus, through its long-term perspective and considering predicted future resources and facilities, the university can choose accurate objectives and activities. In addition, by assigning developed strategies to the areas of education, research, treatment, health, and food and drug administration, and by the development of operational programs in line with the strategic plan, these areas can be coordinated to promote the Ministry of Health indicators. In particular, the effective role of university managers in improving maternal health-related processes is emphasized.

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Conflicts of interest

There are no conflicts of interest.

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