Original Article

Analysis of vaginal delivery promotion package in the National Health System Reform Plan in Iran: a qualitative study

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Abstract

Background: The Vaginal Delivery Promotion Package was a part of the National Health System Reform Plan in Iran, which was implemented to reduce the rate of cesarean sections. The aim of the present study was to examine the views of the beneficiaries on the implementation of the promotion of natural vaginal delivery in the hospitals affiliated to Tehran University of Medical Sciences.

Methods: A qualitative study conducted in 2016 using semi-structured interviews for data collection. The sampling method was purposeful with maximum variation of the beneficiaries. After doing 35 interviews, the data reached a saturation point. Data analysis was done through content analysis method using MAXQDA 10 software.

Results: The package beneficiaries believed that it was successful in achieving its goal to reduce cesarean sections. Their perspectives were classified into two categories (strengths and weaknesses), eight themes (package design, achieving the goals, education and persuasion, package comprehensiveness, monitoring, infrastructures, plan implementation, and service quality), and 24 sub-themes. The most important weaknesses of this package were the payments and supervisions.

Conclusion: Officials and policymakers can improve the package by continuous monitoring, providing necessary feedback to the staff, and modifying the payments. Besides, paying attention to midwives and health workers, the first contact point for pregnant mothers with service providers, can increase the effectiveness of this package.

Keywords: Cesarean section; Health Personnel; Natural Childbirth; Pregnancy

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Introduction

During the recent decades, cesarean section rates have been increasing in all countries. World Health Organization (WHO) has declared an acceptable rate of 10-15% for caesarean sections (1). Iran has one of the highest rates of cesarean sections in the

world, having an unfavorable condition with the caesarean rate of 41.9% (2). Some of the factors that influence the increased cesarean rates in the world are physicians' preference, changes in clinical practices, and the role of insurances and financial providers (3, 4).

Several strategies have been used all over the world to reduce the rate of cesarean section. Using clinical guidelines, education and promotion of pregnant women's and their husbands' information about the complications of cesarean section (5, 6), Second Opinion, i.e. opinions of two gynecologists, audit and feedback on the use of caesarean section (3, 7, 8), peer review (9), informing pregnant mothers about painless delivery (10), and a combination of the above-mentioned strategies are among those that have been used and have somewhat reduced the rate of cesarean section.

In Iran, in order to reduce the rate of cesarean sections, Vaginal Delivery Promotion Package (VGDP) was implemented in the framework of the National Health System Reform Plan on May 5, 2014, throughout the hospitals affiliated to the Ministry of Health and Medical Education (11). The aim of the package was to reduce the rate of cesarean section by 10% by the end of 2014 and increase pregnant mothers' satisfaction. VGDP has been anticipated to use the combined strategy of motivating service providers through incentive tariffs, motivating pregnant mothers by free of charge Vaginal Delivery, and motivating anesthetists to help with painless childbirth by paying them proper wages (12). Although in some studies, the effect of financial incentives specifically for gynecologists was called uninfluential (13), these combined strategies that include all beneficiaries, i.e. hospital managers, gynecologists, anesthetists, midwives and nurses, as well as pregnant women and their families, seem to be effective.

On the other hand, it could definitely be said that this package is the most serious measure taken by the Iranian Ministry of Health over the past few decades to reduce the rate of cesarean sections. But any program that is planned will certainly face a series of barriers or challenges at the runtime. Hence, the plan needs to be surveyed by those who are the implementers of the program or beneficiaries so that the challenges and executive opportunities for reaching its objectives might be specified. The aim of the present study was to examine the beneficiaries' views on the implementation of the promotion of natural vaginal delivery in the hospitals affiliated to Tehran University of Medical Sciences.

Methods

The current qualitative study was conducted at Tehran University of Medical Sciences. We conducted a total of 35 interviews: we reached data saturation after 33 interviews; however, to further ensure confidence, up to 35 interviews were conducted. In other words, data collection continued until the data was saturated; the access to saturation level would be reached through the similarity and appropriateness of the individuals' responses. Data collection was conducted for eight months from March 2016 to October 2016. Participants selection was based on purposeful sampling with a maximum variation, for beneficiaries including hospital managers, midwives, gynecologists, anesthetists, and pregnant mothers.

To collect data, semi-structured interviews and interview guides were used. In semi-structured interviews, the investigator and participants are free to talk further about the questions. This type of interviews allows the investigators to assess the issue in more details and participants can freely discuss about issues under question. The study goals and the identities as well as qualifications of the interviewers were given to the participants who

agreed to participate in the study and signed the informed consent form for participation in the study prior to each interview. Interviews were conducted by one investigator (HA or AMB) lasting for approximately 30-60 minutes at a mutually convenient location (in a quiet environment at hospitals), time, and date, and the contents were recorded using a voice recorder (Sony ICD-PX33). Notes were also taken during interviews by the interviewer when necessary. For consistency, an interview guide was prepared based on input from the investigators, and the actual interviewer was required to review the guide prior to each interview. Participants were interviewed in a face-to-face session at hospitals.

To make sure of the principle of data immersion, each recorded interview was listened to a few times by the investigators, and the contents were typed verbatim. Data were analyzed using conventional content analysis approach, which is considered as a reliable method for analyzing texts, and includes five steps: orientation, knowledge of the conceptual framework, coding, charting, and mapping interpretations. Data analysis was performed using MAXQDA 10 software (two data coders coded the data). Checking the transcribed interviewers for agreement on the codes was verified by the interview team (Peer check). We also reviewed and rechecked the findings with the participants (Member check).

Results

A total of 35 beneficiaries of the project in the hospitals affiliated to Tehran University of Medical Sciences were interviewed. Most of the participants were midwives and the least number of participants were related to anesthetists (Table 1).

The beneficiaries' perspectives were classified into two categories of strengths and weaknesses. The two categories had eight main themes and 24 sub-themes. The categories and themes are presented below.

Strengths

After analysis of the transcribed interviews, two main themes were identified in the strengths of the VGDP (Table 2).

a. Package design: The package beneficiaries believed that one of the strengths of the VGDP was its fairly good design. This main theme consisted of four sub-themes, including dedication of financial incentives for beneficiaries, educating mothers, making pleasant maternity blocks, and providing free of charge vaginal delivery. Some of the points expressed by the participants in the study are as follows:

- ✓ "Since the incentive package first appeared with financial incentives for gynecologists and midwives (70% for gynecologists, 10% for midwives, and 20% for hospital), it made midwives more likely to help mothers to give birth to their children through natural vaginal delivery." (Midwife, Participant Number 11)
- ✓ "It was a positive decision to anticipate anesthetic tariffs in the package for painless deliveries ... if delivery is painless, we will be motivated to participate in painless vaginal delivery." (Anesthetist, Participant Number 15)
- ✓ "Reconstruction of physical spaces at obstetrics department was one of the good things that was done. Our care rooms are now merged, but previously, the labor room was separated from the delivery room. Now, labor, delivery and postpartum care rooms are merged and we can change the beds into different positions." (Participant Number 18)

- ✓ "The rooms for mothers are not single rooms, but changes have been made compared to the past and they have become much better." (Gynecologist, Participant Number 22)
- ✓ "Natural vaginal delivery became free of charge and it was very good because the cost was very important for me, since I was not in a good economic condition then. So, I was somehow encouraged to have natural delivery." (Pregnant woman, Participant Number 34)

Table 1. Participants in the study according to the type of beneficiaries

Participant Characteristics		N (%)
Participant position/status	Midwives	14 (40)
	Gynecologists	5 (14.29)
	Anesthetists	2 (5.71)
	Hospital managers (or matrons)	3 (8.57)
	Pregnant women	11 (31.43)
Total		35 (100)
Educational status	Diploma or lower	6 (17.14)
	Bachelor	13 (37.14)
	MS[a] , MA[b]	7 (20)
	MD[c] , PhD[e], Specialist	9 (25.72)
Total		35 (100)
		Year
Age distribution	Midwives	26-47
	Gynecologists	35-55
	Anesthetists	42, 50
	Hospital managers (or matrons)	34, 49, 51
	Pregnant women	21-44

[a]Master of Science, [b]Master of Arts, [c]Medical Doctor, [d]Doctor of Philosophy

Table 2. Main Themes and Sub-themes of the Strengths of VGDP in Hospitals affiliated to Tehran University of Medical Sciences

Theme	Sub-themes
Package Design	- Financial incentives for beneficiaries
	- Training the mothers
	- Making pleasant maternity blocks
	- Free of charge natural delivery
Achieving the Goals	- Increased satisfaction of mothers
	- Reduced informal payment
	- Improved access to gynecologists
	- Reduced cesarean section rate and increased vaginal delivery

b. Achieving the goals: The package beneficiaries believed that during the two years the VGDP was being implemented, it could achieve many of its goals, amongst which were increased maternal satisfaction, improved access to physicians, reduced informal payments, reduced cesarean section rate, and increased natural vaginal delivery. Some of the statements expressed by the participants in the study are as follows:

- ✓ "One strength was that many informal payments were eliminated." (Midwife, Participants Number 11 and 3)
- ✓ "One point is the financial issue that led to the elimination of informal payments among gynecologists, and the other is the fear felt among the specialists because it was said that the Ministry and the university were holding some meetings to resolutely follow the issue and confront the specialists who didn't obey the rules and even cancel their contracts. Of course, they wanted to sign contracts and as their offices were located in good places of the city, they didn't want to lose their positions." (In charge of maternity block, Participant Number 20)
- ✓ "A resident scheduled was set for the 24-hour stay of the specialists in the hospital. Of course, some of them didn't stay, but some others did, and the patients had easier access to their doctors." (Participant Number 12)
- ✓ "Improvement of financial and physical access to gynecologists was confirmed by some of the mothers who had natural deliveries as well as the clients who referred to clinics." (Participants Number 13, 14, 16).
- ✓ "It had an impact on caesarean section rate and reduced it, and the hospital tried to reduce it by 2.5 percent as its three-month schedule ... Cesarean sections were reduced in this hospital as the plan had aimed at." (Gynecologist and Maternity Section Boss, Participant Number 6)

Weaknesses

The participants identified some challenges and weaknesses for the VGDP, which could be classified into six main themes (education and persuasion, package comprehensiveness, monitoring, infrastructures, plan implementation, and service quality) (Table 3).

a. Education and Persuasion: Although education was one of the main aspects of the VGDP at the time of design, it was not practically carried out well. The participants stated that low level of awareness regarding natural vaginal delivery still exists among mothers. In other words, the mothers were not fully educated on the benefits and disadvantages of natural delivery. Since the package had not taken into account the frontline, i.e. the health care centers, there was still the fear of natural delivery among the mothers, and the desire to have natural delivery was due to lack of other choices. Some of the statements are as follows:

- ✓ "As no good education is still provided at the health care centers, people have come to the conclusion that cesarean section has fewer side effects and natural delivery may have complications, such as bleeding or very hard delivery." (Midwife, Participant Number 3)
- ✓ "It seemed to me that it is a good idea if the Ministry of Health or the authorities of the Universities could come to personally tell the importance of reducing cesarean sections to the service providers (specialists and midwives)." (Participant Number 2)

Table 3. Main themes and Sub-themes of the challenges and weaknesses related to the VGDP in the hospitals affiliated to Tehran University of Medical Sciences

Theme	Sub-themes
Education and Persuasion	– Mothers' inadequate information about Natural Delivery
	– Some beneficiaries' lack of belief in the package
Package Comprehensiveness	– Quantity-Orientation
	– failure to see the first part of care (Health Care Centers)
	– Not having specific guidelines or not following them
	– Belief in unfair distribution of payments
Monitoring	– Lack of continuous monitoring with continuation of the plan
	– Poor monitoring
	– low experience of supervisors
Infrastructures	– Lack of equipment and space
	– Lack of personnel
Implementation	– Non-cooperation of gynecologists and midwives in the private sector
	– Conflict between anesthetists and gynecologists in terms of painless delivery
	– Loss of financial incentives for some beneficiaries after a while
Service Quality	– Increased workload and reduced quality of the visits
	– Increased delivery complications due to excessive emphasis on natural vaginal delivery.

b. Package Comprehensiveness: The topics discussed in relation to the VGDP were as follows: quantity-orientation, lack of specific guidelines or not following them, ignoring the first level of care (health care centers), belief in the unfair distribution of payments between midwives and gynecologists, improper conceptualization and definition of different parts of the package, and, in some cases, choosing the type of delivery upon personal taste. Some of the statements related to this theme include:

- ✓ "The package was only hurriedly implemented because they just wanted to reduce the cesarean section rate, and they didn't consider its quality and the manpower." (gynecologist, Participant Number 22)
- ✓ "If something is done to encourage our care providers to educate the mothers correctly since the time their pregnancy tests are positive and they refer to the health centers to have a file, they'll refer to the hospitals at the right time and the problem will be solved, but unfortunately our health center authorities/staff are not mentally mature enough to educate the mothers basically and properly. Health staff and care providers have no motivation." (Hospital Manager, Participant Number 9)
- ✓ "It was precisely stated in the package that if a specialist did the delivery, he/she would be fully paid but if he/she was only present, it would be beneficial for the midwife. Yet, this was not implemented at all. Gynecologists said because they were specialists, they shouldn't contribute in the delivery, and it was midwives' duty." (Midwife, Participant Number 3)
- ✓ c. Monitoring: The participants in the present study believed that some of the main challenges of the VGDP were the lack of continuous monitoring, poor intra- hospital

monitoring, and low experience of supervisors:

- ✓ "I can say the plan was great and a good idea but it needed to be monitored. One weakness of the plan was that it wasn't well-monitored ... all the items of this package were implemented well only for the first 9 months, but it is several months that it has experienced a downward trend! I mean, it was excellent at the beginning, then it became stable, and then the trend decreased. For example, the counseling classes were closed, but no one from the university is following why the classes were closed! I myself contacted the university deputy to prevent it from closing, but nobody cares and we got back to the previous situation." (Hospital Manager, Participant Number 18)
- ✓ "All the problems are caused by poor monitoring and those who are inspecting must be strong individuals... The monitoring of the hospitals done by the university is poor... In many cases of the monitoring, low-rank people are used, not experienced ones." (Gynecologist, Participant Number 23)

d. Infrastructures: Another main challenge and obstacle emphasized by the participants who were evaluating the VGDP was the problems related to the infrastructures such as equipment and human forces.

- ✓ "We still don't have the infrastructures needed to train pregnant mothers, the educational facilities and even a specific place for these trainings in the hospitals." (Midwife, Participant Number 20)
- ✓ "After the National health system reform plan, referrals to our clinics have increased a lot. I have to visit about 80 patients a day, so I have to use helps from midwives and we're in great need of midwives." (Gynecologist, Participant Number 21)
- ✓ "Another weakness is the shortage of staff in maternity blocks." (Responsible for a maternity block, Participant Number 20)

e. Implementation: The discrepancy between the introduced version of the VGDP and the implementation of the package was another weaknesses noted by the participants of the present study. This discrepancy included the issues such as lack of coordination between different levels, the unresolved conflict between anesthetists and gynecologists in terms of painless delivery, and ignoring the private sector. Some comments of the participants in the study are as follows:

- ✓ "In our hospital, there was no agreement between the anesthetists and gynecologists. For example, at the center where I'm working, the anesthetists only wanted to carry out painless delivery using Entonox (En2nox) gas, but the gynecologists didn't agree. Although they've said they were going to reach some agreements, they've not reached any consensus yet." (Midwife, Participant Number 3)
- ✓ "Anesthetists are willing to do painless delivery, but gynecologists are not. Of the six gynecologists we had, one was ready to do painless delivery, but the rest were unwilling. They said they would never prepare their patients for painless delivery." (Hospital Manager, Participant Number 18)
- ✓ "There were only one or two payments for implementing vaginal delivery promotion package, but then no money was received for this package." (In charge of a maternity block, Participant Number 20)

f. Service Quality**:** As the participants stated one of the issues that threatened the package as a challenge or weakness was the reduced quality of the services due to some reasons, including the increased workload as well as the increased delivery complications due to excessive emphasis on natural delivery.

- ✓ "Our work pressure was doubled and perhaps more... I am forced to visit 80 people in the clinic on a daily basis, so I have to just spend 2 to 3 minutes on each..." (Participant Number 20)
- ✓ "In some cases, we have to use an unreasonable indication, or the pregnant mother has to be imposed the delivery process while she's in a bad condition of anxiety and stress." (Participant Number 22)

Discussion

The present study was conducted in 2016 to examine the VGDP from the perspective of its beneficiaries in Iran. The results showed that the VGDP had two types of strengths (package design and achievement goals) and five types of challenges and weaknesses (education and persuasion, package comprehensiveness, monitoring, infrastructures, implementation, and service quality).

Strengths

The VGDP provided in Iran is a part of the Multifaceted Programs, as several strategies have been used to reduce the rate of cesarean sections, including general education, training gynecologists, training midwives, making natural delivery free of charge, incentive payments to hospitals, gynecologists and midwives, supervision and providing feedback, and making maternity blocks pleasant. In the study by Chaillet et al, one of the most effective methods to reduce the rate of cesarean sections was the use of "Multifaceted Programs". They also suggested that multifaceted strategies along with audit and precise feedback would be effective in reducing cesarean section rates (7).

Other studies also found that financial incentives (14) and Multifaceted Strategies would reduce cesarean section rates. Also, in other studies, it was suggested that more attention must be paid to the role of midwives and the reform of the payment system (7, 16) to reduce the rate of cesarean section.

In fact, as the results of the present study showed and the participants in the study believed, the design of the VGDP and the use of Multifaceted Programs were among the prominent strengths of the package designed in Iran. Due to the proper design of the package, the goals (especially at the earliest stage of the project) were somewhat achieved, which was among the strengths stated by the participants of the study.

Weaknesses and Challenges

Education and persuasion, such as the weakness in mothers' education, continuous fear of natural delivery among pregnant mothers, lack of belief by some beneficiaries and specialists in the package, and the reduced rate of cesarean sections caused by coercion, were among the main challenges of the vaginal delivery promotion package. In their study, Xiaohui Hou et al. pointed out that in order to succeed in reducing cesarean sections, educating mothers had to be emphasized (14). In the study by Azami-Aghdash et al., appropriate culture has been suggested as a strategy to reduce cesarean sections (15). Given that pregnant women and their families play the main role in choosing cesarean section or natural delivery, proper culture and dealing with the fear of pregnant women can be promising to reduce the rate of cesarean sections in communities. Various studies conducted in Iran (15, 16, 17) and other countries have emphasized on the proper culture as an important contributor of cesarean section reduction (14, 18, 19).

Among the weaknesses of the VGDP in Iran, from the viewpoints of the participants in the current study, was its

incomprehensiveness. Although the package designed in Iran was a multifaceted program and used several strategies, some interviewees pointed out that it needed to take into account some other aspects so as to be more effective. Participants suggested that its incomprehensiveness was due to its emphasis on quantity-orientation (emphasis on numerical reduction of cesarean sections), lack of specific guidelines, unfairness of payments, major focus on financial incentives, and lack of cooperation on the part of the private sector. Therefore, non-coverage of the private sector was one of the weaknesses of the package, which could lead to the transfer of cesarean sections from the public sector to the private one. It has also been noted in various studies (14, 16) that having specific guidelines and indications of cesarean sections were important in lowering the rate of cesarean sections, and neglecting these cases has been a major failure in designing the VGDP in Iran.

According to the findings of the present study, the problems of this plan appeared once "supervision" got neglected and proper feedback was not provided. The poor supervision was expressed by the participants using expressions such as poor monitoring, poor inspections, and monitoring by inexperienced personnel and the package was only implemented well for the first 9 months. Monitoring of cesarean indications to ensure that the cesarean sections were performed when necessary and refusing to do selective cesarean sections were emphasized in Quebec, Canada, as a factor influencing cesarean section reduction (21). Another study also reported that a clinical audit would reduce the rate of cesarean sections (22). Therefore, monitoring plays an undeniable role in the success of cesarean reduction programs. It is suggested that intra-hospital supervision and clinical audit be included in the VGDP.

Another weakness of the VGDP was the way the beneficiaries were paid. Although in a study conducted in Iran in 2011 (17) it was emphasized that one of the barriers to reducing cesarean sections in Iran was the low satisfaction of the midwives with labor tariffs, according to the participants in the present study, this problem has not been resolved and the implementation of the package has even triggered the problems related to payment practices.

Although options such as painless delivery and physiologic childbirth had been predicted in this package, and in general, due to providing free services for natural deliveries, more referrals and more natural deliveries were expected, the interviewees in the current study believed that necessary infrastructures including human resources (midwives and gynecologists) as well as required equipment and space for this package, before it would be put into operation, had not been foreseen. Although some measures were predicted to be considered so as to improve the space and equipment of maternity blocks during the implementation of the package, the required human resources were not provided. The study by Chaillet and Dumon emphasized the provision of facilities and equipment to facilitate the measures or plans for reducing cesarean sections (7). Another study conducted by Joyce et al., who evaluated the reduction of cesarean sections in England, stated that one of the key elements for success and reduction of cesarean sections was to support the staff and consider their needs (23). Furthermore, in the study by Yazdizadeh, one of the barriers to reduction of cesarean in Iran was mentioned to be the shortage of human resources (17). Hence, in order for this plan to succeed in the future, appropriate measures need to be taken into account regarding human resources. It is also necessary for policy makers to consider the degree of infrastructure readiness and financial resources when designing different programs.

In addition, other weaknesses of the VGDP included the reduction in the quality of visits, causing tension among gynecologists and midwives in some hospitals, and dissatisfaction of some personnel. In a study conducted in England, it was emphasized that proper relationships between specialists of different fields as well as coordination made by a responsible person or a representative of different staff in the maternity block was important for the success of the cesarean reduction program (23). It was also found reported in another study that anticipating the barriers to change and identifying those barriers played an important role in the success of cesarean reduction programs (7). Policy makers should set up appropriate mechanisms to reduce the tension among gynecologists and midwives (especially in terms of their payments).

Authorities and policymakers can improve the package and increase its long-term impact by paying more attention to continuous monitoring and providing necessary feedback to the staff, and also improving the ways they would be paid. It is also suggested that educating pregnant mothers (making them aware of childbirth benefits and cesarean complications) be started on the first communication bridges between pregnant mothers and service providers, namely the health sector (health homes and centers), and this group of service providers be seen in the VGDP as the first caregivers of pregnant mothers and the first people who are in contact with pregnant mothers. Given the role of midwives in natural deliveries in maternity blocks and their continuous relationships with pregnant mothers, it is also suggested that their financial needs be considered in order to increase the effectiveness of the package.

Conflict of interest

Authors declare no conflict of interests.

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