

## ARTICLE

# THE REAL QUALITY OF MATERNITY CARE IN IRAN HOSPITALS: A QUALITY ASSESSMENT STUDY

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## ABSTRACT

Promotion of the level of quality was declared as one of the five global strategies to improve reproductive health programs in 2004. The World Health Organization accentuates on the monitoring and assessing the structure, process, and outcome of services in order to promote the level of quality. This study aimed to evaluate the quality of midwifery care provided for natural childbirth in two selected hospitals of Urmia University of Medical Sciences. This analytical study was conducted on 200 women with normal pregnancy admitted to the hospitals. They were all selected using census sampling technique. In this study, a questionnaire was used to collect the required data. The questionnaire was filled out in four stages of birth with a midwife observation. Finally, in order to analyze the data, SPSS20 statistical software was utilized. The mean quality of midwifery care in the cities of Khoy and Bukan was  $38.06 \pm 0.59$  and  $32 \pm 7.69$ , respectively. According to the results of Mann-Whitney statistical test, there was a significant difference ( $p=0.000$ ) between the mean quality of midwifery care in the two cities. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher than that in Bukan. The quality of midwifery care for the four stages of childbirth showed that in most areas under review, though the level of quality was not desirable, patients' satisfaction with the provided services was at a high level. According to the results of the current study, it was found that despite the importance of midwifery care in improving maternal health, quality of care is not desirable and it is necessary for the authorities to take some actions in order to improve the quality of midwifery services using specialized personnel, development of staff, and paying attention to the mental needs of patients, etc..

## INTRODUCTION

Despite the fact that most women reach childbearing age in a desirable health status, mortality and morbidity among pregnant women continues to increase. Most of the morbidity and mortality of mothers occur within peripartum and postpartum. Complications of postpartum period are responsible for more than half of maternal deaths. [11].

Nowadays, the difference in maternal mortality in developed countries and developing countries designate the biggest difference of all health indicators. The rate in underdeveloped and developing countries varies from 1 in 15 to 1 in 50, whereas in developed countries, the rate varies from 1 in 4,000 to 1 in 10,000 [26].

In line with the Millennium Development Goals to reduce maternal mortality, Iran pledged to decrease the maternal mortality rate to 20 per 100000 births by 2015.

Each year, about one million and two hundred thousand births occur in the country among which more than 90% are carried out in hospitals (Ministry of Health and Medical Education (MOHME) of Iran 2004). On the other hand, from 1996 to 2005, 2585 maternal deaths and in 2005, 295 cases of maternal death were reported of which 86.7% occurred in hospitals and 60% of them was due to medical, nursing and midwifery errors (Motlagh MI 2006).

However, statistics related to maternal mortality rate is still high compared to the goals of the World Health Organization. This happens while women access to maternity care has increased, but due to poor quality of services, the maternal mortality rate is still high (Parsaee, Saeed Soltani, Reza. 2002).

Large number of maternal deaths can be avoided by providing standard care which is expected in the country concerned (Anderson, A., Mac Farlynj 2000).

Therefore, in addition to increasing the coverage of care, service quality must be improved. Promoting the quality of services was declared as one of the five global strategies to improve the reproductive health program in 2004 (World Health Organization 2005), and many countries attempted some interventions to promote the quality of maternity care (UNFPA 2009).

An investigation into the causes and circumstances of maternal mortality and the assessment of the quality of services is the first step to improve the health of pregnant women. This implies that in order to improve the outcome of service, the quality of services must be measured first in order to improve services to strengthen the weaknesses of the program (Kwast b 1998).

Although addressing the quality is inherent and doctors and other health providers have historically been looking for quality care in any form, the assessment and promotion of the quality of health care dates back to the mid-nineteenth century in England. At that time, the famous nurse Florence Nightingale, served in the Crimean War. He was the first one who detected a logical relationship between the quality nursing care

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to wounded soldiers and reducing the mortality rate of them. During the twentieth century, Nightingale's works were followed by several scientists including Kadman, Flexner, Peterson, Moorhead, and Bain in the United States of America. Although each one's work was related to only one aspect of quality health care, their studies suggested one thing they all had in common and that was to better provide quality services, first of all, we need to assess the quality (Al\_Assaf AF & June A Schmele 1997).

Unfortunately, in daily activities of health system organizations, the quality assessment of such activities is not an easy task. Since quality of health care has various aspects, each one looks at these aspects from their own perspectives. As it was mentioned above, all theories share a special place in the quality of health services and the need to evaluate it because the ultimate goal of quality assessment is to improve the results of the plans as well as to make them effective; in other words, to promote the quality of health care services. Crosby believes that something that cannot be measured cannot be promoted. Quality assessment not only shows the way to implement health programs, but also highlights the failure of the programs so that the problems can be completely solved (Stephanie G. Sherman 1999).

West Azarbaijan is one of the biggest province of Iran. One of the main characteristic of this province is two nations that is unique in Iran. The north of province is Shie and the south is Sonie with different believe and behavior such as pregnancy and delivery. Khoy (Shie) and Bukan (Sonie) are the biggest cities of north and south province. Although, quatitave indicators such as maternal mortality, maternal and are increasing, qualitative indicators are unequal. This study will show us then reality of this.

## MATERIALS AND METHODS

This study was conducted in Khoy and Bukan cities, located in West Azarbaijan Province, Iran. The study sample consisted of all pregnant women who had full-term pregnancy (42-37 weeks), and referred to hospital for delivery.

Sampling was not carried out in this study and all pregnant women referred to delivery wards within the study period (three months) that undertake natural childbirth process entered into the study. Therefore, instead of sampling, census was used. All pregnant women referred to delivery wards within the study period (the period of one month) undertake natural childbirth process. Given the reports of the previous month in the hospital, it was estimated as almost 100 individuals and since for each mother two questionnaires would be filled out, in practice, the sample size was estimated about 200 people. According to the same texts, such number will produce valid results.

The instrument applied to collect data in this study was a 55-item questionnaire that evaluates the observance of the scientific standards of the first stage of delivery, intermittent auscultation of the fetal heart, continuous monitoring of fetal heart rate, and maternal contractions, use of the partograph, the second stage of midwifery care, the third stage, and the fourth stage of delivery (postpartum) and that the measures used are in the form of "yes" and "no".

To assess the validity of the questionnaire, its content was assessed by 5 specialists in the field (supervisor, one gynecologist who was a faculty member, one Master of Midwifery who was a faculty member, and one faculty member specializing in maternal and child health, and finally, Deputy chief of Midwifery, Urmia University of Medical Sciences), and was eventually approved by consensus. To evaluate the reliability, since the questionnaire measured a total concept, after 10 questionnaires were completed in the Center of Gynecology and Obstetrics of Urmia University of Medical Sciences (Kosar Center), the Cronbach's alpha coefficient was calculated as 0.79 that indicated a good internal consistency between the items and that the reliability of the questionnaire was approved.

After the researchers obtained permission from the authorities for Research and Technology and Treatment Deputy of Urmia University of Medical Sciences, and coordinated with the officials of Health Center in Khoy and Bokan and selected and trained the interviewers, we went to the hospitals where the study were to be conducted and informed consent was taken from the pregnant women in hospitals, and filled in the questionnaires. The mothers who were not inclined to participate in the project or their pregnancy were terminated cesarean section were excluded from the study. To reduce bias, the Questionnaire was completed by the mother at postpartum and before discharge from the hospital. For mothers who were not literate enough to complete the questionnaire, the researchers read the questions and tried not to induce any opinions on the expectant mother, and drew her confidence on the confidentiality of information exchanged.

In order to present descriptive characteristics of the studied population, charts, frequency tables, and descriptive statistics including mean and standard deviation were used. To compare the mean satisfaction scores of the two cities under study, independent t-test and to compare the correlation between satisfaction scores in each city studied, the Spearman correlation coefficient were run. A significance level of less than 5% was considered as significant. Data analysis was performed using SPSS20 software.

## Findings

The mean quality of midwifery care in the cities of Khoy and Bukan was  $38.06 \pm 0.59$  and  $32 \pm 7.69$ , respectively. According to the results of the Mann-Whitney statistical test, there was a significant

difference ( $p=0.000$ ) between the mean quality of midwifery care in the two cities. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher than that in Bukan.

The mean quality of midwifery care with regard to intermittent auscultation of the fetal heart in Bukan and Khoy were  $1.17 \pm 0.77$  and  $1.34 \pm 0.91$ , respectively. According to the results of the Mann-Whitney statistical test, there is no significant difference ( $p=0.204$ ) between the mean quality of midwifery care with regard to intermittent auscultation of the fetal heart in the two cities. This means that the means are equal.

The mean quality of midwifery care with regard to continuous monitoring of the fetal heart rate and uterine contractions in Khoy and Bukan are  $0.67 \pm 0.89$  and  $0.37 \pm 0.91$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.000$ ) between the mean quality of midwifery care with regard to continuous monitoring of the fetal heart rate and uterine contractions in the two cities. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean quality of midwifery care with regard to the use of the partograph in Khoy and Bukan are  $0.08 \pm 0.27$  and  $0.37 \pm 0.91$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.004$ ) between the mean quality of midwifery care with regard to the use of the partograph in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Bukan is higher.

The mean quality of midwifery care with regard to the technical care of the first step of delivery in Khoy and Bukan are  $11.07 \pm 3.70$  and  $8.32 \pm 2.02$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.000$ ) between the mean quality of midwifery care with regard to the technical care of the first step of delivery in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean quality of midwifery care with regard to the technical care of the second step of delivery in Khoy and Bukan are  $11.75 \pm 3.22$  and  $9.69 \pm 3.31$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.000$ ) between the mean quality of midwifery care with regard to the technical care of the second step of delivery in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean quality of midwifery care with regard to the technical care of the third step of delivery in Khoy and Bukan are  $4.18 \pm 1.24$  and  $3.44 \pm 1.28$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.000$ ) between the mean quality of midwifery care with regard to the technical care of the third step of delivery in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean quality of midwifery care with regard to the technical care of the fourth step of delivery in Khoy and Bukan are  $9.55 \pm 2.18$  and  $9.01 \pm 2.80$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.023$ ) between the mean quality of midwifery care with regard to the technical care of the fourth step of delivery in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean satisfaction of service recipients in the field of hospital facilities in Khoy and Bukan are  $10.75 \pm 3.27$  and  $10.41 \pm 2.55$ , respectively. According to the results of the Mann-Whitney statistical test, there is a significant difference ( $p=0.034$ ) between the mean satisfaction of service recipients in the field of hospital facilities in Khoy and Bukan. This means that the means are not equal, and the mean quality of midwifery care in Khoy is higher.

The mean satisfaction of service recipients in the field of treatment of employees in Khoy and Bukan are  $17.71 \pm 4.22$  and  $17.38 \pm 5.44$ , respectively. According to the results of the Mann-Whitney statistical test, there is no significant difference ( $p=0.814$ ) between the mean satisfaction of service recipients in the field of treatment of employees in Khoy and Bukan. This means that the mean qualities of the two groups are equal.

The mean satisfaction of service recipients in the field of technical performance of staff in Khoy and Bukan are  $32.76 \pm 9.99$  and  $34.31 \pm 7.15$ , respectively. According to the results of the Mann-Whitney statistical test, there is no significant difference ( $p=0.585$ ) between the mean satisfaction of service recipients in the field of technical performance of staff in Khoy and Bukan. This means that the mean qualities of the two groups are equal.

The mean satisfaction of service recipients in the field of mother's participation in cares in Khoy and Bukan are  $6.47 \pm 2.61$  and  $6.79 \pm 1.65$ , respectively. According to the results of the Mann-Whitney statistical test, there is no significant difference ( $p=0.641$ ) between the mean satisfaction of service recipients in the field of mother's participation in cares in Khoy and Bukan. This means that the mean qualities of the two groups are equal.

**Table 1:** Distribution of absolute and percentage frequency of the quality of midwifery care from the perspective of technical standards

No		Yes			
Frequ ency	Perce ntage	Frequ ency	Perce ntage		
280	93.3	20	6.7	Was serum connected to the mother?	1
0	0	300	100	Were drugs such as atropine, hyoscine, or promethazine was administered to the mother?	2
4	1.3	296	98.7	Was the mother shaved?	3
6	2	294	98	Was the mother became enema?	4
4	1.3	296	98.7	Was the mother stimulated?	5
73	24.3	227	75.7	Was the mother autonomous in walking and selecting the desired position in labor?	6
154	51.3	146	48.7	Was the mother encouraged to drink fluids?	7
130	43.3	170	56.7	Was the mother encouraged to empty her bladder?	8
241	80.3	59	19.7	Were the pain-relief methods used?	9
55	18.3	245	81.7	Was vaginal examination performed every 4 hours in the latent phase?	10
44	14.7	256	85.3	Was vaginal examination performed every 2 hours during the active phase?	11
162	54	138	46	Was the mother's vital signs controlled once every four hours in the latent phase?	12
168	56	132	44	Was the mother's vital signs controlled every 2 hours during the active phase?	13
149	49.7	151	50.3	Was uterine contractions evaluation performed every 30-60 minutes?	14
134	44.7	166	55.3	Was uterine contractions assessed every 30 minutes during the active phase?	15
46	15.3	245	84.7	Was the heartbeat of the fetus assessed in the first stage of labor in low-risk cases at least once every 31 minutes and in case of high risk at least every 15 minutes?	16
221	73.7	79	26.3	Was the heart rate checked for 60 seconds after the uterine contraction?	17
250	83.3	50	16.7	Was auscultation of fetal heart rate checked at the same time?	18
276	92	24	8	Was continuous monitoring used?	19
245	81.7	55	18.3	In terms of any evidence of risk (fetal heart rate greater than 161 and less than 111 and passing meconium and beginning oxytocin infusion, etc.) was continuous monitoring applied?*	20
293	97.7	7	2.3	In terms of any abnormal results of NST, was one of the auxiliary methods such as fetal heart rate, fetal blood sampling, and stimulation of the head performed?*	21
218	72.7	82	37.3	Was the mother in the supine position when Monitoring was carried out?*	22
285	95	15	5	Was Decision-making for interventions during labor performed based on the partograph?	23
244	81.3	56	18.7	If the rapid termination of pregnancy was required, was cesarean section was performed within 30 minutes?*	24
57	19	243	81	Was the mother transferred to the maternity in due time?	25
182	60.7	118	39.3	Did the midwife wash her hands properly before delivery?	26
24	8	276	92	Did the midwife use sterile gloves?	27
35	11.7	265	88.3	Were perineal or washing serum used or in case of episiotomy, was Betadine used?	28
114	38	186	62	Was the fetal heart rate checked every 15 minutes During labor?	29
211	70.3	89	29.7	Were the mother's vital signs measured at least once in labor?	30
131	43.7	169	56.3	Were uterine contractions recorded every 15 minutes During labor?	31
23	7.7	277	92.3	Was the mother forced to straining?	32
9	6.3	281	93.7	Was pressure on the belly performed for the delivery?	33
135	45	165	55	Was episiotomy performed?	34
40	13.3	260	86.7	If the mother was in the lithotomy position was Ritgen modified maneuver carried out for the head to come out? If the mother, was in UpRIGHT position, was the head of the fetus supported?	35
130	42.3	173	57.7	After the head came out, was the neck circumference controlled with regard to the presence of umbilical cord?	36
18	6	282	94	After the head came out, were the mouth and nose of the baby sprayed?	37
170	56.7	130	43.3	Immediately after birth, was the baby prone on the mother's abdomen and were arms skin to skin contact with her?	38
19	6.3	281	93.7	Was the uterus examined after delivery?	39
147	49	153	51	Was the stomach touched to ensure that there is no other fetus?	40
19	6.3	281	93.7	After the head came out, was the neck circumference controlled with regard to the presence of umbilical cord?	41
42	14	258	86	Was the controlled traction of cord done after clamping?	42
102	34	198	66	Were the pair and shades controlled?	43
31	10.3	269	89.7	Was uterine massage performed?	44
51	17	249	83	Was it become clean by washing Serum, perineum or clean cloth?	45
73	24.3	227	75.7	Were mother and baby kept warm?	46
38	12.7	262	87.3	Was the mother controlled for postpartum hemorrhage rate?	47
26	8.7	274	91.3	Were anterior, posterior regions and vaginal wall controlled to detect the extent of the tear or episiotomy?	48
136	45.3	164	54.7	Was the mother controlled in terms of the signs of hematoma?	49
65	21.7	235	78.3	Was anesthesia used To repair the tear and episiotomy?	50
65	21.7	295	86.3	Were small tears restored in the absence of bleeding in postpartum?	51
41	13.7	295	86.3	Was disinfectant poured on perineum in postpartum?	52

23	7.7	277	92.3	Was ice or bag put on mother's womb in postpartum?	53
19	6.3	281	93.7	Was bladder catheterization performed in Postpartum?	54
18	6	282	94	Was cervical controlled in Postpartum?	55

In the [Table 1], the highest quality was related to item 2, prescription of drugs such as atropine and hyoscine or promethazine with 100 percent and the lowest quality was related to item 21, in the case of abnormal result of NST, an assessment of fetal health such as sampling the fetal blood and stimulation of head/ Vibroacoustic, etc. with 3.2 percent.

## DISCUSSION

In this study, which was conducted for the first time in the cities of Khoy and Buchan, located in northwestern Iran, West Azerbaijan Province on 200 women with normal pregnancy, it was found that in Bukan, the mean quality of midwifery care was  $37 \pm 69.7$ , whereas in Khoy, it was  $38.06 \pm 0.59$  and that the quality in Khoy was higher than that in Bukan, and the overall mean quality Buchan was  $35.54 \pm 9.13$ , which indicates that the quality of midwifery care is at a low level and according to the Kruskal-Wallis test ( $P = 0.0001$ ) the quality of midwifery care is significantly different in the two cities, and the means are not equal.

With regard to the first objective "to determine the quality of midwifery care in four stages (first, second, third and fourth stages of delivery), from the perspective of technical aspects, in Khoy and Boker hospitals, "the results indicate that in the first stage of delivery, the means for Bukan and Khoy were  $8.32 \pm 2.02$ , and  $11.75 \pm 3.22$ , respectively i.e. compared to Bukan, the quality of care in the first stage was higher in Khoy.

In the second stage, the mean quality of midwifery care in Bukan, and Khoy was  $9.69 \pm 3.31$ , and  $11.75 \pm 3.22$ , respectively and the quality of care in the city of Khoy is higher than the other two cities.

In the fourth stage, the mean quality of midwifery care in Bukan, and Khoy was  $9.01 \pm 2.80$ , and  $9.55 \pm 2.18$ , respectively and the quality of care in the city of Khoy is higher than the other two cities.

The results of the study by Oryan and colleagues entitled "An investigation into the quality of midwifery care provided to pregnant women admitted to the selected Hospitals of Yazd in 2012", one of the central and southern provinces of Iran, showed that the mean quality of midwifery care in the first and second stages was 49%, and in the third and fourth stages, it was 67%. The results of their study are inconsistent with those of the current study in the way that the mean quality of care was higher in the first and second stages.

Simbar and colleagues in 2009 conducted a study in the selected hospitals of Kurdistan University of Medical Sciences, located in the West of Iran. Midwifery cares were presented at various stages of delivery with the mean percentage of compliance with desired situation, in the first stage (71.4%) in the second stage (63.03%), in the third stage (80.63%) and in the first two hours after delivery (70.50%). This is not consistent with the result of our study. This difference may be due to the high number of births and midwife large volume of work, no care for afterbirth on the part of the midwife and negligence to comply with the standards by the authorities.

The results obtained from the study by Simbar and colleagues in 2003 in hospitals affiliated to Shahid Beheshti University of Medical and Health Services in Tehran, the quality of care provided in the fourth stage (postpartum) was poor in most cases. The results of this study are consistent with the results of the current study. the quality of care in the third and fourth stages (postpartum) was low.

The results of the study by Karimiyan, et al in 2011 in hospitals of Kashan University of Medical Sciences in the central and southern regions of Iran showed that the quality of midwifery care in four steps is not desirable. The results of this study are consistent with those of our study.

With regard to the second objective "to determine the intermittent auscultation of the fetal heart rate in Bukan and Khoy hospitals" the obtained results suggest that the means for Bukan and Khoy were  $17.1 \pm 0.77$ , and  $1.34 \pm 0.91$ , respectively i.e. compared to Bukan, the quality of care was higher in Khoy. In total, the overall mean was  $1.27 \pm 0.81$ . In Bukan and Khoy, the assessment of fetal heart in the first stage in low-risk cases at least once every 31 minutes and every 15 minutes in high-risk cases had the highest quality (81%) and the hearts beat for 60 seconds after childbirth and uterine contraction in Bukan and Khoy had the lowest quality (16%) and simultaneous auscultation of heart rate had the lowest quality (15%).

The results of the study by Karimiyan and colleagues in 2011 in hospitals of Kashan University of Medical Sciences showed that auscultation of fetal heart was not of high quality and given the importance of controlling the fetal heart rate, auscultation of fetal heart every half hour in low-risk pregnancies is essential at this stage (Cunningham L & Williams, 2014). In this study, no auscultation for a full minute and lack of the release of the outcome to the mothers are considered as the causes of low quality of this kind of care.

Oryan and colleagues conducted research at the selected Hospital of Yazd in 2012. In their study, no auscultation for a full minute and lack of the release of the outcome to the mothers are considered as the causes of low quality of this kind of care. This is not consistent with the current study which may pertain to the shortage of medical staff and the large volume of midwives' work in this case.

With regard to the third objective "to determine the quality of midwifery care in the context of continuous monitoring of heart rate and uterine contractions, in Khoy and Boker hospitals", the results indicate that the means for Bukan and Khoy were  $0.37 \pm 0.91$ , and  $0.67 \pm 0.89$ , respectively i.e. compared to Bukan, the quality of care was higher in Khoy. No study was found in this respect.

With regard to the fourth objective "to determine the quality of midwifery care in the field of Partograph, in Khoy and Boker hospitals", the results indicate that the means for Bukan and Khoy were  $0.37 \pm 0.91$ , and  $0.67 \pm 0.89$ , respectively i.e. compared to Bukan, the quality of care was higher in Khoy. In total, the midwifery care had the mean of  $0.05 \pm 0.21$  i.e. a low quality. In Bukan, the quality is high (100%), whereas in Khoy, the quality is low (8%).

Oryan and colleagues conducted research at the selected hospitals of Yazd in 2012. The results suggest that on the control of uterine contractions. Lack of recording Partograph is a major cause of the mean quality of care.

Simbar and Associates conducted studies in 2007 at the selected hospitals of Kurdistan University of Medical Sciences. The results showed that controlling uterine contractions must be done in the active stage of delivery to prevent uterine hyper or hypotonicity (increase or decrease in the strength of contractions of the uterus) and must be recorded every half hour in terms of the number and duration (Clemenstone S & Al 2002, World Health Organization 1994, Cunningham G & Al 2005). This midwifery care process was provided with low quality.

Anderson and Johansson reported that one of the major causes of maternal death after childbirth is the poor quality of care (Anderson F, Johnson T (2001)). The standardization of care in the postpartum period appears to improve the quality of essential services. This study is consistent with the study.

Anderson and Johansson reported that one of the major causes of maternal death is the poor quality of care after childbirth (Anderson F, Johnson T (2001)). Accordingly, the standardization of care in the postpartum period appears to improve the quality of essential services.

The quality of care on uterine assessment was the most desirable area which is important in the diagnosis and prevention of complications of uterine bleeding and can be a factor in reducing maternal deaths due to obstetric hemorrhage (Margolis L & Kotelchuk M, 1996).

According to the above-mentioned studies, limited episiotomy has benefits such as reducing damage to the perineal muscles (Carroli and Mignini 2009), less bleeding and pain for the patient (Mignini and Carroli 2009, and Cunningham et al. 2005). Given the importance of these cases, restricted use of episiotomy rather than the routine use is recommended (Aukee 2006, Dannecker 2004, Kudish 2008).

In general, it seems that in this research, much work of midwives, hospitalization, abortion, and preparation for cesarean section in delivery ward, and admission of women with complications can be considered as important reason to reduce the mean performance of the maternity ward staff. Given that maintaining and improving maternal health depends largely on the provision of services by medical staff, officials need to improve the quality of midwifery services by applying specialists, motivating them to raise the quality of services, developing staff, paying attention to the psychological needs of the patients and providing facilities for the presence of patient accompaniment, etc. Also, holding more educational courses on practical skills of delivery ward, installation of the protocols of Ministry of Health or promotion of the use of partograph and familiarization of staff on how they can use them to improve the quality of cares such as proper and on time evaluation of vital signs and fetal heart rate and control of contractions can be effective. Such protocols result in continuous appraisal of staff performance by managers and can improve the quality of midwifery cares and ultimately, increase customers' satisfaction and health.

#### CONFLICT OF INTEREST

None

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None

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