

Effective factors in the quality of care during childbirth and promoting strategies

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ABSTRACT

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Access to appropriate and high quality health care is one of the most important ways to reduce maternal and infant mortality. This study evaluates the quality of care during childbirth, the effective factors, and promoting strategies in Lorestan province, Iran. This research is a mixed explanatory study (i.e., quantitative and qualitative). The quantitative part is descriptive-analytic. The quality of 200 care processes during childbirth was assessed in the health centers of the province. The data were gathered through the checklists prepared according to the guidelines of the Iranian Ministry of Health. Statistical analysis was performed using SPSS software. In the qualitative part, the strategies for solving the problem were assessed through interviews with service providers, maternity administrators, and senior decision-making university officials. According to our results, the levels of care quality during childbirth were intermediate in all four phases. The lowest levels of quality in the first, second and third stages were associated with Leopold's maneuver, hand washing and pulse control, respectively. Based on the interviews, the main reasons for the reduction of care quality include lack of staff's motivation, overcrowding and shortage of nursing workforce, low attention of officials to the Department of Midwifery, and the high burden of writing in the maternity. To improve the quality of services, the authorities in Lorestan University of Medical Sciences propose

strategies such as making some incentives for care promotion. Considering the quality of care during childbirth as intermediate in all four stages in the province and investigation of the reasons indicating the lack of sufficient incentive in midwives, it is recommended that strategies such as financial

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incentives, greater use of private sector to reduce public sector workload, quality increase and further use of in-service training to improve the quality of services be adopted.

INTRODUCTION

Maternal health improvement was set as one of the eight Millennium Development Goals (MDGs) of the World Health Organization (WHO) in the meeting held in 2000¹. Two important criteria to achieve this goal include reducing maternal mortality by three-quarters in 1990 and women's access to reproductive health services by 2015². Maternal mortality is not only a health indicator, but also one of the indicators of a community's development showing how much societies care about maternal health³. The most important cause of maternal death is pregnancy-related complications, being responsible for 18% of women's diseases in developing countries⁴. The estimated maternal mortality rate in Iran was approximately 24.6 per hundred thousand live births in 2008⁵. Based on mortality statistics, maternal mortality rate in Lorestan province was slightly higher than that of the country in 2010⁶. Some strategies were proposed to reduce maternal mortality such as increasing women's literacy, skilled attendance at delivery, family planning, pre-pregnancy and prenatal care as well as during- and after-childbirth (postpartum) care³. Approximately, more than

one quarter (i.e., 300 million) of adult women in developing countries suffer from chronic diseases and injuries related to pregnancy and childbirth⁷.

It is shown that in the case of supplying resources and availability of sufficient services, many of these deaths are preventable⁸. Maternal mortality rate can be significantly reduced if the labor is performed under the supervision of a skilled and educated staff. Appropriate midwifery care is also a vital factor in the reduction of maternal mortality⁹. Reducing maternal and child mortality rates has constantly been one of the main goals of the WHO activities. Prenatal care, as well as during- and after-childbirth care, is the key strategy to achieve this goal¹⁰. Despite the efforts of the WHO, UNICEF, the World Bank, and other organizations to reduce maternal mortality by three-quarters up to 2015, there is little progress and the situation is worsened in some areas⁸. To achieve optimum results during pregnancy and childbirth and after childbirth, some activities have been conducted by skilled and well-educated groups¹¹. In Iran, 98% of deliveries are performed by trained staff, and the prenatal care coverage is more than 98%. Women

and babies care during childbirth is the most common cause of hospitalization¹².

The purpose of health care during childbirth is to achieve the highest level of mothers' and babies' health with minimal interventions¹³. In line with the global reproductive health goals and strategies at the International Conference on Population and Development held in the WHO, the Iranian Ministry of Health and Medical Education has assigned improving the quality of reproductive health care and family planning as one of its priorities¹². Maternal mortality reduction is among the important goals of the foregoing Ministry from 30 in 1990 to 18 per one hundred thousand in 2015. Since the rate reduction of maternal mortality is slower than the anticipated program (reduced rate is 3.2% per year, which should be 5.5% per year)¹⁴, concerted efforts should be made to expedite the process of reducing mortality. Thus, one of the most important measures is to evaluate and improve care quality.

In a study entitled the quality of midwifery care provided for the women admitted in the selected maternity wards of the selected hospitals of Kordestan University of Medical Sciences, it is mentioned that the quality of care in the first and third stages of labor was optimum, but it seemed intermediate in the second stage of labor¹⁵. Based on the results from the analysis and comparison of the physical and psychoso-

cial quality of care during labor, it was shown that the quality of care is undesirable and more attention is required on the part of the authorities and service providers¹⁶.

In Iran, based on the MDGs, maternal mortality rate has fallen by approximately 50% compared to that of 1990. It is now approximately 25% per hundred thousand, which should reach 18% per hundred thousand by 2015⁸. Despite a care coverage of more than 97% in Iran¹⁷, the rate of maternal mortality is still high and there exists a considerable distance from the MDGs. Thus, it seems that the quality of care needs to be investigated. Moreover, in line with the objectives of the Ministry of Health, the reduction of maternal and infant mortality in Lorestan province is one of the primary goals. Therefore, assessment and improvement of the quality of services is among the priorities of the university¹⁸. This study aimed to assess the quality of care during and after delivery and determine strengths and weaknesses, finally providing a solution to improve care quality and guiding interventional programs in the province.

MATERIAL AND METHODS

This research is a mixed explanatory study (i.e., quantitative and qualitative). The first section examines the quality of care during and after delivery, and the second part examines the causes and provides solutions to improve the

quality of care. The sampling method of the quantitative part was non-random-quota sampling in which the available specimens were used. Based on a similar study, the sample size was determined as 200 patients. Generally, the quality of care in nine public hospitals affiliated with Lorestan University of Medical Sciences was examined. Of the patients referring to any hospital for childbirth, 10 to 30 cases of each childbirth stage (i.e., the first, second, third, and fourth stage) were evaluated. Inclusion criteria were as follows: pregnant women aged 18 to 35 years old without any known medical and surgical history, no contraindications for vaginal delivery, spontaneous onset of delivery, gestational age of 37-41 weeks, without any previous history of pregnancy complications and normal fetal heart rate. Exclusion criteria included any of the above observations during delivery or need for emergency caesarean section. By reviewing the studies, reference books and instructions of the Ministry of Health¹², the researchers developed a checklist of observing the process of care during childbirth. The checklist was prepared in three parts as follows: Part I: List of the first stage of labor care containing 93 criteria for the evaluation of the relationship between service providers and patients, assessment of history-taking by the provider, evaluation of the vaginal examination, assessment of the vital signs, evaluation of the fetal heart,

evaluation of the contractions, and assessment of psychological supports. Part II: Assessment of the second phase of care consisting 43 care evaluation criteria for vital signs, fetal heart rate control, hand-washing, physical care, and emotional support. Part III includes 71 items to assess monitoring vital signs, evaluation of placental removal, immediate care of the neonate, examining the placenta, examination of the neonate, episiotomy repair, emotional support, and recording in the file. The fourth phase consists of 35 items for the assessment of breastfeeding training, monitoring vital signs, and bleeding control. The checklists were assessed and scored based on the specified criteria. Each criterion was evaluated using three options as “performed completely,” “performed incompletely,” and “not performed,” which were allocated the scores of two, one and zero, respectively. The option (not the case) was considered for unnecessary criterion; thus, the criteria were eliminated and excluded from the overall calculation. The sum of scores for all cases was calculated and expressed in percentage term. The estimated percentage was considered as the percentage of compliance to the desirable situation. Then, according to the calculated compliance percentages, the scores of 0-33%, 34-67% and 68-100% were considered as undesirable, intermediate and desirable quality, respectively. The content validity index (CVI) method was

used to evaluate the content validity. Therefore, a questionnaire was emailed for 15 faculty members, expert in the subject at Lorestan and Isfahan Universities of Medical Sciences. They were asked to allocate one of the four degrees of "irrelevant, low correlation, related, and closely related" to each question according to form and content. An alternative part was also considered to record their comments (content validity ratio or CVR=0.82)¹⁹. To determine the face validity of the questionnaire, during interviews with a limited number (including 15 participants) of the target population, if a question was unclear for the respondents, it was edited. The final modification was performed according to the experts' comments. To assess the reliability of the observational checklist, intra-rater reliability assessment method was used, which was approved by the 0.86 score of the Pearson correlation coefficient.

Having received permission from Lorestan and Isfahan Universities of Medical Sciences, the interviewers referred to the public hospitals affiliated to these universities in the morning, afternoon and night shifts for sampling and completing the questionnaires. The data were gathered via checklists by observing the process of childbirth care at different stages of labor. Finally, the collected data were analyzed by SPSS software (ver.16).

In the second part (i.e., qualitative study with content analysis), according to the acquired scores, the issues that needed improving were determined and the interview questions were formulated. After conducting in-depth interviews or focus group discussions with the maternity staff, each lasting for 45-90 minutes, primary causes and strategies were investigated. Using conventional content analysis of the interviews, the questions related to the specialized strategies to enhance the quality of care²⁰ were designed. Moreover, by conducting focus group discussions with 12 experts (or maternity officials), specialized strategies were examined. General strategies to improve the quality of care during and after delivery were also assessed through individual interviews with 21 officials and decision-makers in Lorestan University of Medical Sciences.

RESULTS

The quantitative part

In this study, 200 childbirth cares were assessed at each stage. The results showed that, in the first stage of labor care, satisfaction of delivery room cleaning was desirable in most fields, which gained more than 67% of the total score. Only in providing some labor cares such as Leopold's maneuver (10.8%), pulse control (32.4%) and fetal heart rate control by Pinard (fetoscope) (3%), the scores were lower than 33% and the quality was poor. In the sec-

ond stage of labor in most fields of labor care, the obtained score was desirable. However, only in some fields such as hand washing, heart rate monitoring, and heart rate control by Pinard, the score was lower than 33% of total score and the quality was poor. Notably, the lowest score related to heart rate control by Pinard. At this stage, blood pressure control and readiness for delivery gained 34-67% of the total score and had the moderate quality. Other cases had desirable quality. In the third stage of labor, only the score of pulse control was less than 33% of the total and care quality was poor. Blood pressure control and neonate examination had scores of 34-67% of the total and showed moderate quality. In other cases, care quality was desirable.

Generally, the quality of care during labor was average in all four stages in the province (Table 1). The results showed that, in some fields at different stages of labor, care quality was almost the same in most cities. Accordingly, it was observed that in most cities, some fields of the first stage of labor such as history taking, vaginal examination, fetal heart rate (FHR) control by Sonicaid and blood pressure control had good quality. In the second stage of labor, some fields such as fetal heart rate control by Sonicaid, physical care and emotional support, evaluation of labor process and blood pressure control showed optimum quality. In the third stage of labor, blood pressure control, physical

care and emotional support, assessment of the episiotomy repair, placental removal evaluation as well as evaluation of immediate care of the newborn and evaluation of labor reports had good quality in most cities. In the fourth stage, the quality of bleeding control and breastfeeding training were desirable. Some cases such as the midwife's relationship with the patient and Leopold's maneuver had poor quality in the first stage of labor. In the second stage of labor, hand washing and, in the third stage, blood pressure control had poor quality in most cities. The quality of postpartum care in the first two hours of delivery had average quality with 65% of the total score at this stage.

Table 1. Quality of care during childbirth provided in the health centers of Lorestan province according to the delivery stages.

Condition	Degree of care quality			Mean degree of quality
	Desirable 68-100%	Intermediate 34-67%	Undesirable 0-33%	
Delivery stages				
First	14	83	3	54.5
Second	24.6	71.4	4	57
Third	57.9	38.5	3.6	66
Fourth	46.9	51.5	2.6	65

Note: The numbers show percent of frequency.

The qualitative part

The analysis of hospital staff interviews showed that the major cause of reduced quality in certain fields of care includes inadequate trainings, weakness in professionalization, inadequate staff's motivation, insufficient work force, inadequate staff's motivation, high burden of writing in the hospital, and inattention of officials to midwives (Figure 1).

Figure 1. Effective factors on quality of care during childbirth (Source: Research results)



In the focus group, strategies of improving the quality of care were discussed. The results showed that maternity authorities consider some items for the improvement of quality such as recruiting more midwives to reduce the workload per shift, increasing financial incentives to encourage midwives to provide high quality services, more attention to midwifery, assignment of the bulk of the mothers' training

to staff working in health departments to have more effective trainings during pregnancy, midwifery on-call employment to reduce workload and increasing the quality in busy shifts, assignment of responsibilities of women's specialty hospitals to more expert staff in the field of women (midwives) to facilitate specialized activities, increasing the quality and repeatability of in-service training and motivation of staff for greater embracing in these trainings.

At the end of the project, different approaches to improve care quality from the viewpoint of Lorestan University of Medical Sciences' authorities were investigated. The results indicated that there is no consensus among the officials and the staff in some cases, including inattention of authorities to midwifery, staffing lack and lack of adequate incentive in midwives as the main causes of declining quality of care. In other words, the officials rejected the foregoing causes as quality-reducing factors. According to the evidence cited by the officials, the average staffing force in the provincial hospitals was within the standard limit. Inappropriate distribution of staff in different shifts and unpredictability of maternity patients are the causes of crowding or lack of work force. In addition, strategies such as strengthening the private sector to reduce public sector's workload, increasing the staff's motivation through encouragement and finan-

cial assistance are also suitable for providing high quality service. To improve the quality of in-service training and embracing the staff to attend in these classes, some strategies are recommended, which include counting the training hours as their shift work or overtime, counting the mission for people participating in the training course in the province center, and subjecting the annual granting to participate in these classes. Some of these measures are already extensively implemented. The authorities agreed on assigning the responsibilities of women's specialty hospitals to more experienced expert staff in obstetrics and gynecology, and mentioned that, considering the availability of the context (i.e. suitable and competent applicant), they are willing to cooperate (Figure 2).

Figure 2. Improving strategies for quality of care during childbirth (*Source:* Research results).



DISCUSSION

The results suggested that the care quality offered in most fields of the first stage of labor in Lorestan province were moderate or desirable; only in a few cases including Leopold's maneuver and controlling the pulse, it was poor. With a little contemplation on the results, it was shown that there is a high level of compliance (more than 90%) of fetal heart rate monitoring with Sonicaid in the first and second stages of labor in most cities, indicating the ease of use and availability of this tool. These features lead to the replacement of Pinard with Sonicaid. After listening to the heart rate with Sonicaid, assessment of the history had the highest compliance rate with the desirable conditions. Leopold's maneuver is one of the easiest ways to identify fetal position and presentation; location of the fetus' organs, the presence or lack of engagement and descent. In addition, the weight and size of the fetus can also be estimated by this method, all demonstrating the importance and usefulness of this measure during childbirth. Leopold's maneuver can be easily handled with spending as little time as possible. We noticed the poor quality of this care in the health centers of the province; thus, the causes should be investigated. One probable reason is inadequate understanding of the importance of this care by the employees²¹. However, due to the standard ratio

of midwifery staff during childbirth, one midwife for each caregiver in labor²², and the failure of this standard ratio in the medical centers of Lorestan, the lack of midwives leads to overwork pressure and insufficient efficacy of midwives in the maternity ward, finally causing less consideration to some cares, which can be ignored by other measures such as vaginal examination. One of the essential procedures during childbirth is monitoring vital signs such as pulse rate control of woman-in-labor in the first stage, which should be performed once in each four hours²³. However, the results of this study indicate the poor quality of offering this care in the health centers of the province.

The use of partograph is a measure currently used in the health care centers, which leads to the increase of quality and regularity of examinations of mother and fetus during childbirth and quick detection of any problems. This graph allows the midwife to indicate delivery details²⁴. When electronic monitoring of fetus is not provided in the all health centers, partography can be effective for more accurate assessment of fetal and maternal health as well as managers' better evaluation of service providers' performance. In this study, the quality of partogram in the health centers of the province was average and should be promoted.

In the second stage of labor, the scores of some kinds of care such as hand washing and

pulse control were less than 33% and had poor quality. Considering the importance of blood pressure control during childbirth, although the score was more than 33%, it has poor quality and there is a need for improvement. Hand washing is one of the five main factors of patients' safety declared by the World Health Organization²⁵ and hygiene, including hand washing, is the first and foremost need to manage the delivery. During different stages of childbirth, hygiene is more important than antibiotics for preventing infection²⁶. Unfortunately, this measure was of poor quality in the treatment centers of the province; which is apparently due to less attention of service providers in the province. Thus, the training classes can be effective in these areas.

Physical care and emotional support are among the high quality childbirth care in all the phases of maternity in the province receiving good scores. Among the benefits of providing this care, some cases such as reducing pain, decreasing anxiety, and increasing the rate of spontaneous delivery can be mentioned²⁷. One of the main issues in this area is closely monitoring and midwife's attendance at the woman-in-labor bedside, which is the most important emotional support. The continuous presence of midwife is as important as its quality, and maintaining such a relationship leads to confidence and tranquility of women, reinforcing mothers' body for the production

of endorphins²⁸. The results of a study by Gagnon et al. showed that the presence of a caregiver for each woman during childbirth significantly reduced the use of oxytocin and subsequent obstetric complications²⁹. Considering Iran, the presence of husband is not possible during childbirth, but emotional support in Lorestan health centers was desirable.

In the second stage, it is recommended that heart rate be controlled every fifteen minutes in low-risk deliveries, and every five minutes in high-risk pregnancies^{2,24}. The results also confirmed the implementation of guidelines offered by the World Health Organization in this field. One of the important measures in the progression of the second stage of childbirth is preparing mothers and training them for cooperation³⁰. This measure had good quality in the medical centers of the province.

Episiotomy is one of the actions performed in the treatment centers of the province with good quality. However, nowadays, the desire for episiotomy is decreased due to side effects, including fecal incontinence; therefore, it must be used in the elections having fetal indications such as shoulder dystocia, breech delivery, using forceps and vacuum, etc.³¹. It is assumed that the service providers of the province need more in-service training to meet new relevant research results and guidelines.

In the third stage of childbirth, newborn examination and blood pressure control had

moderate quality and achieved less than 67% of the total score. Regarding the importance of newborn examination in the first hour for the fast identification of fetal abnormalities and gaining basic information for subsequent examinations, sufficient attention has not been devoted to this issue in the health centers of the province; thus, it needs to be promoted. Blood pressure control is one of the basic measures to assess the mother's health during childbirth, predict and diagnose disorders such as dangerous postpartum hemorrhage²³. According to numerous studies, hemorrhage is one of the main causes of maternal death during pregnancy and childbirth, which can be prevented by diagnosis and timely interventions⁵. Hypotension is an early sign of hidden bleeding. Therapeutic interventions can be performed by the exact control of hypotension, thus, preventing further complications. However, the results indicate that this issue has moderate quality in Lorestan health centers and needs upgrading to serve as a step towards improving maternal health.

Based on the results, the quality of care during childbirth in many fields, especially in the critical care fields discussed, were moderate or optimal and only in a few fields, the quality was poor. According to the above discussion, the weaknesses are in those issues, which somewhat lost their importance due to the replacement of new equipment and thus have

received little attention by care providers, or issues like blood pressure. It is necessary to investigate causes and solutions for these issues.

In this study, an assessment tool was constructed for measuring the quality of care in different stages of childbirth according to the guidelines of the Iranian Ministry of Health, Treatment, and Medical Education. According to the results, it is recommended that the following measures be adopted: more training courses on the practical skills of maternity wards; installation of the protocols of the Ministry in the health centers; promotion of partography usage and acquaintance of the staff with this method; critical need for sensitization of employees to perform simple, but important care such as pulse control and hand washing while conducting surveillance; better communication with patients as well as preparing and introducing them with the delivery environment with more satisfaction; and improving the quality of care.

The results of the quality part showed that the university authorities were aware of many health care fields including ways of enhancing the quality and welcoming in-service training, use of on-call midwife (i.e. midwife for newborn care), improving the quality of the physical environment of the hospital and standardization of the midwife ratio to childbirth in the province. During the two-year research pro-

ject, major initiatives have been taken in these fields. The authorities did not approve some of the causes of the quality loss with documentation (such as lack of work force). According to the consensus of top authorities of the medical universities as well as maternity officials and midwives in areas such as expansion of physical space, increasing the quantity and quality of in-service training and assignment of responsibility to more specialized staff in the field of women's care and practical measures in this field during recent years, it seems that this strategy can overcome shortcomings in some fields of care. It should be noted that during interviews with maternity staff and officials, tangible changes were observed in some fields such as examination of the newborn, primary care of the newborn, correct completion of the partography forms and supplying necessary equipment for hand washing in the maternity, which confirms the results of the quantitative part of the project and awareness of authorities concerning these problems and necessary measures to eliminate them.

CONCLUSION

Considering the quality of care during childbirth as intermediate in all four stages in the province and investigation of the reasons indicating the lack of sufficient incentive in midwives, it is recommended that strategies such as financial incentives, greater use of private

sector to reduce public sector workload, quality increase and further use of in-service training to improve the quality of services be adopted.

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REFERENCES

1. World Health Organization Regional Office for the Eastern Mediterranean, Regional Director, Annual Reports, Promoting health across the life course. Maternal, reproductive and child health Maternal mortality ratio per 100000 live births. 2012; Available online at: <http://rho.emro.who.int/>
2. World Health Organization: Regional office for the Eastern Mediterranean. Making Pregnancy Safer Data Base in the EMR 2009; Available online at: <http://www.who.int/statistic>.
3. Yavar M Y, Ayesha MA, Usman M A, et al. The effect of providing skilled birth attendance and emergency obstetric care in preventing stillbirth, BMC public health. 11(suppl3), 2011:S7 doi 10.1186/1471-2458-11-s3-s7.
4. Kidney E, Winter H R, Khan K S, et al. Systematic review of effect of community – level interventions to reduce maternal mortality. BNC pregnancy child-birth 2009;9:2.
5. World Health Organization: Maternal Mortality. 2010; Available online at: <http://www.who.int/EMRO/statistic>.
6. Ministry of Health and Medical Education, Deputy of Health, Lorestan University of Medical Sciences, 2010.
7. Mahdi Hazavehei S M, Etesamifard T, Moeini B, Roshanaei Gh. Prenatal care behaviors status among pregnant women using by BASNEF Model, Zahedan Journal of Research in Medical Sciences, 2014;16(10):16 (Suppl1).
8. Liang J, Xiaohong L, Li D, Weiyue Z. The changes in maternal mortality in 1000 counties in mid-western China by a government-initiated intervention. PLoS ONE 7(5) 2012: e37458. doi:10.1371/journal.
9. World Health Organization, Regional office for the Eastern Mediterranean: Making pregnancy safer database in the EMR 2009. Available online at: <http://www.who.int/statistic>.

10. World Health Organization Maternal Health and Safe Motherhood Program, Division of Family Health: Mother newborn package .WHO Geneva.(2010).Available online at: <http://who.int/hq/2010/WHO-FHE-MSM-94.11-Rev.1.pdf>.
11. UNICEF, Progress for children. A world fit for children: statistical review. New York, USA: UNICEF, 2007; Available: http://www.unicef.org/progressforchildren/2007n6/index_41854.htm Accessed March 4, 2011.
12. Ministry of Health and Medical Education, Health Department: Maternity care plan 2011. Available online at: <http://www.hbi.ir/>.
13. Berman R, Kliegman R, Jensen H. Nelson textbook of pediatrics, 17th ed. Translated by Khosravi N, Mohammadpour F. Tehran: Artin-Teb Publication, fourth edition, 2011;pp: 17.
14. WHO, UNICEF, UNFPA and World Bank: Maternal mortality rate in 2005. WHO library cataloguing in population data. Available online at: http://www.who.int/maternal_mortality_rate.
15. Simbar M, Ghaffari F, TorkZahrani SH, Alavi-Majd H. Assessment of quality of midwifery care in labor and delivery wards of selected Kordestan Medical Sciences University hospitals, IJHCQA 2009;Vol 22 No 3, pp: 266-78(in Persian).
16. RowlandsI J, RedshawM. Mode of birth and women's psychological and physical wellbeing in the postnatal period, BMC Pregnancy and Childbirth 2012; 12:138.
17. Ministry of Health and Medical Education. International Day of the Midwife Health Ministry reported. May 2011; Available online at: <http://www.behdasht.gov.ir>. Accessed May7, 2011.
18. Deputy of Research and Technology, Lorestan University of Medical Sciences in 2008; research priorities, priorities of midwifery, No. 2.
19. Waltz C, Strickland OL, Lenz E. Measurement in nursing and health research. 4th ed. New York, NY; Springer Publishing Company; 2010. P.163.
20. Hsiu-Fang H, Sarah E. Shannon: Three approaches to qualitative content analysis. Qualitative Health Research 2005; 15(9); 1277-88.
21. Azari S, Sehhati F, Ibrahimi H. The quality of care in public and private hospitals after cesarean delivery in Tabriz, The first International Conference on Health Promotion and Education,

- Tabriz University of Medical Sciences, 2010(in Persian).
22. Amirshahi M, Badakhshan M, Salehin SH. Delivery care before and after cesarean delivery. Tehran: Community 2010; 219 - 32(in Persian).
23. Page IA, Percival P, Kitzinger SH. The new midwifery science and sensitivity in practice, 1st ed. CharchllLivingston 2007:125.
24. Muralidhar L, Malini KV, Vishema H Shety: Paretophagic analysis of spontaneous labor at term in primigravida. J ObstetGynaecol India. Dec 2012; 62(6): 635–640.
25. World Health Organization: Clean care is safer care, 2012; Available Online: <http://www.who.int/gpsc/en/>.
26. WHO, UNFPA, UNICEF (2007): Managing complication in pregnancy and childbirth: A Guide for midwives and doctors from WHO, WHO/RHR/00.7/Department of Reproductive Health and Research, Geneva.
- Available online: http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/9241545879/en/.
27. Howell E, Concato J. Obstetric patient satisfaction: Asking patient what they like. Am J Obstetric Gynecology 2004; 190:175-82.
28. Hodent ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women childbirth. The Cochrane Collaboration and Publication 2012; 10: 58-66.
29. Sharmi SH, Zahiri Z, Zende Del M. Satisfaction of mothers receiving prenatal care of Rasht public hospitals. J Rasht Univ Med Sci 2009; 17: 29-37.
30. Ahmadi Z, Azimi H. Satisfaction of mothers receiving midwifery care in labor and delivery rooms. J Nurs Midwifery Faculty ShahidBeheshtiUniv Med Sci and Health Serv 2009; 19:30-5.

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