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## The relationship between quality of labor and delivery care with the delivery unit managers' leadership style

Masoomeh Kheirkhah<sup>1</sup>, Sima Inanloo<sup>2</sup> and Hamid Haghani<sup>3</sup>

<sup>1</sup>Ph.D. in medical education, assistant professor, department of midwifery, Iran University of medical sciences, Tehran, Iran

<sup>2</sup>M.A student in midwifery management, Iran University of medical sciences, Tehran, Iran

<sup>3</sup>Ph.D. in biostatistics, faculty staff at Iran University of medical sciences, Tehran, Iran

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### ABSTRACT

Nowadays maternal and infant health promotion is part of every country's development goals. One of the best strategies to achieve this main goal is the quality of labor and delivery cares provided by the hospitals; since the recognition of the present status can help us provide appropriate strategies to improve the quality of the services. Since the midwifery staff, as the health system specialists, play the most important and influential role in quality promotion and thus have their own needs and expectations in the workplace. Meeting the aforementioned needs and expectations calls for applying both knowledge and intelligence in management. The managers' leadership style can affect the promotion of staff performance and it can also help promote the quality of the care provided for the patients. The present study aimed at finding the relationship between labor and delivery cares with the managers' leadership style in healthcare centers covered by Alborz University of Medical Sciences in 2016. The present study is a descriptive-correlational one. The statistical population and sample were the midwives working at the delivery units of the hospitals covered by Alborz University of Medical Sciences. Data collection tool was the tool used for surveying the quality of labor and delivery cares as well as multi-factor leadership questionnaire (MLQ). The questionnaire's validity with its content validity and its reliability with Cronbach's coefficient alpha was measured 0.85 for the leadership style and 0.87 for labor and delivery cares. The data collected was analyzed using SPSS version 22. According to %49.6 of the midwifery staff, the leadership style of the delivery unit managers was a transformational one. The quality of labor and delivery cares was favorable as being 77.3. The mean of the quality of labor and delivery cares was higher in transformational leadership and a significant relationship was observed between leadership style and the quality of labor and delivery cares ( $P\text{-Value} < 0.001$ ).

**Key words:** leadership style, quality of care, labor and delivery, delivery unit managers

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### INTRODUCTION

Maternal and infant health promotion is part of the development goals of the third millennium and is studied as one of the health indicators (World Health Organization, 2010). Concerning maternal health promotion widespread attempts have been made to provide effective approaches, one of which has been the study of the quality of labor and delivery cares (Araban, 2013). According to the statistics provided by the Ministry of Health and Medical Education the maternal mortality rate arising from pregnancy and delivery complications is annually 21 out of 100000 and as for infants the mortality rate is 39 out of 1000 (World Fact Book, 2015). The factor behind most of

the mortality has been poor monitoring and labor and delivery care (Cunningham, 2014). By assessing the quality not only the plan execution (compared to the standard) is identified but the planning process is identified as well. Having identified the problem it is attempted to identify the causes and find ways to remove them. The definition of health cares has been provided by the American Medical Association in 1940. It has been confirmed later in 1994 and 1998 and it has been valid since then. The definition states: the quality of health cares includes some degrees of health services provided for the individual as well as the community that can help promote the desired health results and it conforms to the modern professional knowledge (Lamei, 2003, Abedi et al, 2011). The quality of labor and delivery cares include: the degree of compatibility of the labor and delivery cares provided with the pregnant mother's needs and expectations. Quality maternal care is appropriate, economical, convenient, and accessible which is provided respectfully and politely by professional staff enjoying the modern knowledge in centers provided for the applicants. This enables the women to choose a healthy lifestyle and it also increases the possibility of achieving desired results (Simbar, 2009).

The hospitals are among those organizations enjoying lots of professional staff and the leadership style appropriateness in the hospital management is of high importance (Delkhosh Kasmaei, 2012). Providing continuous and desired health services in the best way possible as well as improving hospital procedures depends, to a great extent, on the managers' leadership style (Neiwerhous et al, 2011). Constant behavioral patterns that the managers apply while cooperating with others are called leadership styles. The researches done in health and treatment have all indicated that the managers' leadership style is related to efficacy, performance, and efficiency within any given organization. The researches have also revealed that the leadership style is closely related to the improvement of capabilities, the staff performance, and the quality of cares provided for the patients (Amerioun, 2011). The midwifery staff, as the health system specialists, are responsible for providing labor and delivery care (Chamani, 2011) and they have responsibility as for the conditions as well as the quality of services provided. They are also regarded as the most crucial members of health care promotion and they have their own needs and expectations in their workplace. Meeting the needs and expectations calls for applying both knowledge and intelligence in management (Vahid Dastjerdi, 2011). The present study aimed at finding the relationship between quality labor and delivery care with the managers' leadership style in healthcare centers covered by Alborz University of Medical Sciences in 2016. Applying the findings of the present study as well as identifying the present conditions can help promote the human resources management and health services.

## MATERIALS AND METHODS

The present study is a descriptive-correlational one which was done in 2015-2016 and was cross-sectionally conducted in the hospitals covered by Alborz University of Medical Sciences including the following hospitals: Kamali, Bahonar, Imam Hassan Mojtaba, Hazrat Ali, Fatemeh Al-Zahra, Imam Jafar Sadeq, SarAllah, Dr. Shariati, Private Hospital: Ghaem, Takhte Jamshid, Imam Khomeini, Maryam, Kasra, and Hashtgerd Social Security Hospital. The statistical population of the present study was the midwifery staff of the delivery unit. Having applied the formula of  $n = \frac{(z_{1-\alpha/2} + z_{1-\beta})^2}{d^2} + 3$  the population sample size was 123. With regard to the number of midwives working in the delivery units of the centers appropriate quota sampling was conducted. The sampling was done randomly among the midwives qualified for the present study. The midwives' qualifications for being included in the present study were: working in the delivery unit, having at least B.A in midwifery, and a six-month experience of working in the center. The qualifications of the mothers for being included in the present study were: having a completely natural childbirth, enjoying term delivery, cephalic singleton, not suffering from any diagnosed diseases, not having any record of medicine consumption, not having any record of pregnancy complications.

The data collection tool was demographic information questionnaire, multiple leadership questionnaire (MLQ), and assessment tool of labor and delivery care quality. In order to decide upon the delivery unit manager's leadership style and attitude towards midwifery staff MLQ was applied which includes 36 items. Based on Likert Scale each item was scaled as a five-scale item ranging from "Never" (0 point) on one side of the spectrum to always (4 points) on the other side. The criterion for choosing the leadership style of the delivery unit manager (as viewed by those filling out the forms) is the percentage of the scores given by the individual to three sections (transformational, interactive, and non-intervention). If a given style's items gets the highest point, it will decide the manager's prevailing leadership style. The validity of the questionnaire was confirmed with the content as well as face validity by ten academic specialists and the reliability of the tool was decided upon using Cronbach's Alpha.

The tool for studying the labor and delivery cares was based on the national guidelines and instruction and it was provided by the midwifery department of the Ministry of Health and Medical Education. The tool's content as well as face validity was confirmed by ten academic specialists of management and midwifery. The reliability of the tool was conducted through concurrent observation (the measurement among the observers). The correlation of the observations was  $r = 0.87$  according to Spearman Correlation Coefficient. This tool was completed through observation and the study of the documents of labor and delivery cares of women having a completely natural childbirth, enjoying term delivery and a cephalic singleton and it has five stages of assessment including: first stage of labor care, intermittent fetal heartbeat hearing, partogram drawing, second stage of labor care, and third stage of labor and delivery care. Each scale was assessed in this way: when the answer to the scale was positive it received one point and when it was negative it received 0 point and it was not assessable it was removed. In the end the points were added up and were provided in percentage terms. The scaling system was as follows: % 0-25 as undesirable quality of labor and delivery care; % 26-50 as average quality of labor and delivery care; % 51-75 as relatively desirable quality of labor and delivery care; and % 76-100 as desirable quality of labor and delivery care. The ethical considerations of the present study were confirmed by the committee of ethics at Iran University of Medical Sciences (with registration number of "IR.IUMS.REC 1394.9211373211" and this study received a letter of introduction and then permission from the authorities in charge at Alborz University of Medical Sciences and the hospital which were supposed to be studied. The names of the hospitals and the samples identity remained unknown as being part of the ethical considerations. The data was collected in 3 6 months from 2016/2/20 to 2016/8/22. Having collected the data, they were then analyzed using SPSS version 22.

## RESULTS

### Findings

With regard to demographic specifications, 79 samples (%63.9) were married. With respect to the employment status, 49 (%38.11) were contractual. 53 samples were under 29 years old (%42.4) and 60 samples (%48) had less than five years of experience. The delivery unit head-midwife's leadership style as viewed by midwifery staff and the quality of labor and delivery care are demonstrated in tables 1 and 2.

**Table 1. Numerical indices of the leadership style of delivery unit head-midwife as viewed by the midwifery staff in 2016.**

Leadership style	Frequency	Percentage	Mean	Standard Deviation	Range of Variations
Transformational	62	49.6	72.3	23.2	14.47-100
Interactive	55	44	73.1	20.2	18.75-100
Non-intervention	8	6.4	43.3	20.5	5-100

**Table 2. The indicators of the quality of labor and delivery cares in 2016**

Level of quality The area of assessment	Undesired		Average		Relatively desired		Desired		Total		Mean
	number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
First stage labor care	0	0	20	16.3	48	39	55	44.7	123	100	73
Fetal heartbeat hearing	6	0.5	44	34.6	37	30.6	34	28.1	121	100	74.8
Partogram drawing	0	0	7	5.6	30	24.2	87	70.2	124	100	80.4
second stage of labor care	0	0	13	10.7	45	37.2	63	52.1	121	100	77.6
third stage of labor and delivery care	2	1.6	11	8.9	38	30.6	73	58.9	124	100	82.9
The quality of labor and delivery care (total)	0	0	8	6.5	47	38.2	68	55.3	123	100	77.3

As for the statistical population of this study, 62 midwives (%49.6) of the delivery unit maintained that the leadership style of the head-midwife was transformational, 55 of them (%44) stated that it was interactive and 8 (%6.4) stated that it was non-intervention.

The quality of labor and delivery care was desired with the mean of %77.3 and the standard deviation of %15.3. The lowest mean was for the quality of the first stage labor care and the highest mean was for the third stage of labor care.

The relationship between leadership style and the quality of care has been demonstrated in table 3.

**Table 3. The relationship between the managers' leadership style and the quality of labor and delivery care in 2016**

Leadership style The areas of labor and delivery quality	Transformational		Interactive		Non-Intervention		The findings one-way analysis of variance Anova test
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
First stage labor care	78.65	15.66	65.27	17.73	78	14	P-value<0.001
Fetal heartbeat hearing	84.54	40.62	59.54	21.6	79.1	29.2	P-value<0.001
Partogram drawing	84.73	11.15	75.09	20.21	84.6	3.8	P-value<0.001
second stage of labor care	85.49	20.51	67.46	17.67	86.6	12.5	P-value<0.001
third stage of labor and delivery care	90.75	13.8	73.53	19.72	87.5	18.8	P-value<0.001
The quality of labor and delivery care (total)	83.81	11.78	68.76	15.16	83.2	10	P-value<0.001

One-way Analysis of Variance test indicated a significant statistical relationship between leadership style and the quality of labor and delivery care ( $P$ -value<0.001). The findings of Scheffe post-hoc test indicated that the mean of labor and delivery care quality in the transformational leadership style was significantly different from that of interactive leadership style and the transformational leadership style had higher mean of labor and delivery care quality in all aspects. Due to the low frequency of non-intervention style, the mean of labor and delivery care quality in this leadership style was not compared to the other leadership styles.

### DISCUSSION AND CONCLUSION

The quality of labor and delivery care in the hospitals covered by Alborz University of Medical Science was studied for the first time using tool of labor and delivery care quality and the findings indicate that the status of care quality at the first stage of labor and delivery was relatively desired and this conforms to the study done by Simbar et al (2012) in which they reported desired care quality at the first stage of labor and delivery. The findings of the present study do not conform to those of Araban et al (2013) and Changaei (2014) in which they both reported average care quality at the first stage of labor. The reasons behind this lack of conformity can be: educational workshops to promote the midwifery staff performance to help promote natural childbirth in the current year; physiologic deliveries; the different place of the study; and finally different healthcare providers. The findings of the study done by Kheirkhah et al (2016) conducted at the hospitals covered by Iran University of Medical Sciences revealed that the promotion of healthcare centers depends, to a great extent, on the organizations receiving the learning. Promoting the midwives' performance is closely related to measures like holding educational workshops to help the midwives elevate their professional commitment which can ultimately lead to the improvement of care quality (Kheirkhah et al, 2016).

The quality of fetal heartbeat hearing with the mean of 90.3 enjoyed a desired status which conformed to the study of Simbar et al (2012) which conformed to the national guideline of labor and delivery cares. However, the findings of the present didn't conform to those of Karimian (2014), Araban (2013), and Simbar (2009) in which the quality of fetal heartbeat hearing didn't enjoy a high quality. The factor behind this lack of conformity can be attributed to the constant monitoring of the fetal heartbeat at the units of the present study. The constant monitoring was conducted to facilitate the procedure especially at crowded delivery units in which the opportunity of intermittent fetal heartbeat hearing is not possible for all the staff. On the other hand there are two more reasons why the routine electronic monitoring is applied: 1. the worries concerning the legal issues of fetal health; 2. the poor familiarity of all the midwifery staff with the constant electronic monitoring indicators of fetal heartbeat hearing which, in turn, calls for the necessity of conducting continuous workshops and retraining the midwives at the medical and educational centers (Kheirkhah et al, 2016).

Partogram drawing enjoys a desired quality in the present study. In the study done by Changaei et al (2014) the partogram drawing enjoyed average quality which does not conform to the findings of the present study. The factor behind this lack of conformity can be attributed to: more monitoring by the managers; applying the WHO guideline of partogram drawing; the emphasis given by the WHO to partogram drawing in order to evaluate maternal as well as fetal health to a greater extent; holding educational workshops of how to fill out partogram forms.

In the present study the care quality of the second stage of labor enjoyed a desired quality which does not conform to the studies done by Araban (2013), Simbar (2009), and Changaei et al (2014)- all of which enjoyed average quality of the second stage of labor care. The factors behind this lack of conformity can be attributed to: holding more

educational workshops on practical skills at delivery units; installing the protocols of the Ministry of Health and Medical Education at the centers; sensitizing the staff to conduct simple, but important, cares; having a better interaction with the patients; preparing the patients and making them aware of the delivery environment at pregnancy preparation workshops; conducting physiologic deliveries; paying more attention to the midwives to promote natural deliveries; employing on-call to reduce workload and promoting quality at busy times. In the present study the care quality of the third stage of labor and delivery enjoyed a desired quality which does conform to the studies done by Simbar (2009, 2012) in which the quality of this stage has been evaluated as desired. However the findings of the present study do not conform to those of Araban *et al* (2013) and Changaei *et al* (2014) in which the quality of this has been evaluated as average. The factors behind this lack of conformity can be attributed to: holding educational workshops and maternal mortality sensitization courses which can help reduce maternal mortality arising from delivery bleeding since they can learn: how to diagnose bleeding; how to take care of it; and how to avoid its complications. Increasing financial motivations and paying the delivery remuneration can also encourage the midwives to promote the services they provide.

The findings of this study indicate that according to the midwives participating in this study most of the head-midwives delivery unit had transformational leadership style. In a similar study done by Hu *et al* (2016) the leadership style of the surgeons in surgical teams has been transformational as well. The finding of their study conforms to those of the present study. The findings of this study also conforms to those of the study done by Neibat (2013) concerning leadership style of head-nurses in which the leadership style of the head-nurses was reported as transformational. Al-Husseini Al-Modaresi *et al* (2014) reported the leadership style of Yazd Red Crescent Society as being transformational which conforms to the present study. The findings of a study done by Afshar *et al* (2014) reported the leadership style of the head-nurses as interactive.

Arbatani *et al* (2013) reported the most of the managers' leadership style at the research centers of Shahid Beheshti University of Medical Sciences has been interactive which does not conform to the findings of the present study. The factor behind this incompatibility can be several reasons including: managers' attitudes and capabilities; the organization's nature and kind of activities; the managers' duties; and the cultural conditions ruling the organization. All in all, according to the findings of the present study there is a significant relationship between leadership style and the care quality of labor and delivery. Allaubani *et al* (2014) have studied the effects of leadership style on the quality of the services provided in the hospitals and they have stated that transformational leadership style has a positive effect on the quality of the services provided as well as the personnel's performance, satisfaction and commitment. Neibat (2013) and Ghorbanian (2010) have also indicated that there's a significant statistical relationship between transformational leadership style and professional satisfaction. In the study done by Hayat (2011) transformational leadership style was highly correlated with the personnel's performance promotion. In Hu's study (2016) a significant relationship has been reported between transformational leadership style with teamwork promotion and information sharing. Arbatani (2013) has maintained that transformational leadership style affects, to a great extent, the organization's entire promotion. All of the above-mentioned studies conform to the findings of the present study. Being realistic, transformational leadership style can bring about: individuals' participation; promoting individuals' performance; receiving sponsorship from the authorities and managers; reduction in professional stress; increasing professional satisfaction among the personnel; promoting self-confidence and thus performance among the personnel.

Rezakhan *et al* (2016) have studied the effects of leadership style on the performance of the hospitals in three countries including Pakistan. The findings of their studies reveal that interactive leadership style can greatly affect the performance of the hospitals. In Amerioon's study (2011) dictatorial-exploitative leadership style had the highest degree in the hospitals' performance indices. Asef (2005) have stressed that the higher the mean of interactive leadership style is, the higher their mean of performance will be. The factor behind the conformity can be: the managers' thinking skills; the nature and the kind of activities in the research centers; the personnel's duties; and the cultural conditions ruling the research environment. Midwifery services are of great importance in the process of labor and delivery- being of the most important and unforgettable moments in maternal life- and thus transformational leadership style, organizational training, appropriate organizational atmosphere and effective teamwork can promote the midwifery staff's motivation and commitment and helps promote the quality of the services provide (Kheirkhah, 2016).



## CONCLUSION

Since the leadership style is correlated to the quality of labor and delivery care, the managers' of the midwifery field can play an important role in promoting the quality of care by adopting a proper leadership style. Transformational leadership style can bring about high levels of care quality and it is closely related to promoting professional satisfaction, self-efficacy, professional interaction, performance and reducing professional tension. Training transformational skills needs to be part of the basic educational requirements provided to midwifery managers. Employing effective and successful transformational leaders in midwifery units is one of the professional and ethical responsibilities of high-ranking managers.

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