

*Original Article*

## The Effect of Lamaze Practices on the Outcome of Pregnancy and Labor in Primipara Women

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### Abstract

**BACKGROUND:** The present study discussed the effect of Lamaze practices on the outcome of pregnancy and labor in primipara women referring to selected hospital of Tehran university of medical sciences in 2005.

**METHODS:** This study was a controlled semi-experimental clinical trial. Samples included 70 selected women referring to selected hospitals in Tehran. The subjects were divided into control and study group. Study group received Lamaze technique included a training program for the study group containing 6 sessions. In each session, various subjects based on educational program were taught. Subjects were followed from 24-26 weeks of pregnancy to 24 hours after delivery. A checklist and a questionnaire were used for collecting the data. Data was analyzed by SPSS software.

**RESULTS:** The findings showed the subjects were the same regarding demographic characteristics and level of knowledge concerning various methods of labor and Lamaze technique. There was no significant difference between two groups regarding the type of delivery, longitude of the first stage of delivery and the first and fifth minute APGAR score as well as mean gestational age. But, a significant difference in frequency of normal vaginal delivery and forceps or vacuum usage between two groups was mentioned ( $p < 0.05$ ). The duration of the second stage of delivery in study group was less while the mean weight of the newborns was more than the controls ( $p < 0.05$ ). The study group was more satisfied with their labor ( $p < 0.05$ ).

**DISCUSSION:** The findings showed Lamaze practices can increase satisfaction of labor process. It can decrease the length of second stage of delivery. Inclusion of Lamaze technique in maternal care programs is highly suggested.

**KEY WORDS:** Lamaze practices, pregnancy outcome, pregnancy, satisfaction.

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Fear, anxiety and pain are three factors play important role during delivery process, and if fear and anxiety remove, mental and physical calmness will substitute them <sup>(1)</sup>. Severity of pain during pregnancy stages is depended greatly on mental tensions of mother <sup>(2)</sup>. Relaxation skill is one of the most effective ways of using non-medication methods to decrease pain and face fear and stress before and during delivery. All kinds of training classes related to delivery can help women

or couples to face correctly with normal vaginal delivery. In this situation, trainer of these classes plays an essential role by encouraging and supporting mother and her companion <sup>(3)</sup>.

The researches have shown that pregnant women consider four key factors as their satisfaction of delivery as the following: her relation with midwife or physician, their support, individual expectations and participating in decision making. Decrease of mother's anxiety and fear by relaxation techniques allows the

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pregnant woman to keep her calmness during labor and save their energies for delivery time <sup>(4)</sup>. Lamaze practices are one of the affairs that teach mothers to manage their delivery pains. They learn to relax their muscles instead of crying which leads to better contraction and use different ways of breathing for not losing their control <sup>(5)</sup>.

Some researchers showed relaxation method is one of the most effective non-medication ways to monitor stress of delivery process <sup>(6)</sup>. Some researchers stated in their studies that the consistent presence of a supporter beside parturient causes the decrease in cesarean rate, the length of delivery and fetal and infant problems and finally lead to mental and physical health of mother and also increase of APGAR scale. Regarding the main purposes of Iran ministry of health and medical education and international organizations to increase physiologically safe pregnancy and delivery with least intervention and support mother in all physical and mental aspects, so the researcher decided to assess the effect of Lamaze practices on pregnancy outcome and labor in primipara women.

## Methods

This was a controlled semi-experimental clinical trial study which carried out in two stages. Studied population were 70 primipara women referring to Hedayat and Shahid Bahonar hospitals of Tehran in 2005 to receive routine maternal cares and had the criteria to participate in the study (gestational age of 24-26 weeks, single pregnancy, first pregnancy, having husband and literate).

Data collection was done by check up, observation, interview and information of files using questionnaire and checklist. Reliability of the questionnaire was proved by according tests. At the beginning of the study, the researcher referred to maternal cares ward of selected hospitals and provided a list of all primipara women. After studying their health files, the cases that had the criteria to be involved in the study were selected and after explaining about the research a list of mothers who wanted to participate in the study were

provided. By simple random sampling 70 pregnant women were selected. First of all, the knowledge questionnaire involved 14 questions were given to them to evaluate their knowledge about Lamaze and all trained practices during implementing research for all of the studied cases. In this stage, if a subject had different level of knowledge, regarding the criteria, another sample would invite to participate in the study. The studied samples were randomly classified in two groups (study and control); they were given two special cards to keep after delivery. Mothers were informed that they would be omitted if they did not participate in classes for three sessions. Lamaze technique includes a training plan for study group consisted of 6 sessions. In each session various topics according to the plan were taught to pregnant women by the researcher. The mothers should practice trained cases three times for 30 minutes in a week at their homes. At the beginning of the next session, the previous practices were reviewed and mothers' questions were answered. Various topics according to the plan are taught by the researcher. These persons are followed for 24 hours after delivery. As soon as admitting mother in delivery ward and their check up by the physician or midwife, they are wanted to do trained exercises in the classes to decrease fear and anxiety during delivery by methods of breathing, loosening muscles, focus, dedicated and slow petting of stomach with fingers.

Samples were followed 24 hours after delivery. All studied samples informed the researcher at the beginning of delivery pains and referring to hospital. After admission of mother in delivery ward and doing examination by physician or midwife, study group were wanted to perform trained practices which learned in the classes in loosening muscles, regulating and monitoring the rate and depth of breathing under the guidance of the researcher besides regular massaging of stomach with fingers by researcher. After delivery, age, weight and APGAR score of infant, kind of delivery, the length of first and second stage of delivery based on the information file in two groups were registered in related checklists.

Data were analyzed using descriptive and inferential statistical methods (t-test and K<sup>2</sup>) in SPSS software. For all tests the level of significance was considered 0.05.

## Results

64.3 percent of participants in this study were in range of 20-24 years. 78.6 percent graduated in diploma, 71.4 were house owner and 37.1 percent were tenant. There was not any significant statistical analysis in case of education level, occupied status, and house status, level of awareness and age of mother between two groups.

According to statistical K<sup>2</sup> test, findings showed that two groups had no significant statistical difference in the frequency of cesarean after doing Lamaze exercises, but the frequency of normal vaginal delivery (NVD) ( $P=0.0323$ ), forceps and vacuum usage in control group was different significantly ( $P=0.001$ ); NVD was more seen in studied group and forceps and vacuum usage in control group. Lamaze technique had no effect on the length of the first stage of delivery comparing studied and control groups ( $P>0.05$ ); But it affected the length of the second stage ( $P=0.013$ ). No significant statistical difference was seen between studied and control group in the first minute APGAR ( $P>0.05$ ). The mean weight of newborns in studied group was  $3528.14 \pm 287.78$  gr and higher than the mean of control group  $3353.57 \pm 296.15$  gr; There was a significant difference between mean weight of newborns in studied and control group ( $P=0.01$ ). The mean of gestational age showed no significant difference ( $P>0.05$ ). Also, researcher assessed the factors affecting the satisfaction of studied group by analyzing variance. The results showed shorter length of the first and second stage of delivery stage ( $P=0.01$ ,  $P=0.03$ ) were only midwifery variables and in this study were related to the mothers' satisfaction.

## Discussion

This study showed no significant different in the frequency of cesarean after doing Lamaze practices but the frequency of NVD and for-

ceps usage in control group was significantly different. Moslemabadi et al showed that special midwifery care which consisted of body calming, breathing methods and massage has decreased cesarean and forceps usage comparing usual care, as two groups showed a significant difference in case of delivery kind<sup>(8)</sup>. Also, Javadi in his study indicated the effect of continuous support of pregnant mother during labor on delivery kind between intervention and control groups. The frequency of cesarean and forceps usage in studied group was less than control group and group who supported continuously had more NVD<sup>(9)</sup>. It seems that the presence of husband in mother bedside during delivery, and also complete and independent monitoring of midwife can be effective in decreasing the rate of cesarean delivery in this study. Different results of the present study in frequency of cesarean between two groups and its similarity with other studies could be derived from unreasonable professional intervention during the labor and implementing routine protocols in mentioned centers. It also may be resulted from high frequency of cesarean in the country that is approximately three times more than standard of world Health Organization (WHO). It was out of researcher control, but as it mentioned before, frequency of NVD in studied group was more and forceps and vacuum usage was more in control group. Comparison the length of the first and second stage in both studied and control showed no significant statistical difference and doing Lamaze technique by the studied group had no effect on the length of the first stage of delivery, but decreased the length of the second stage of delivery.

Chang et al believed that childbirth is a stressful, painful and boring experience that its negative experiences increase as the stages take a long time delivery. He perceived experienced anxiety and sever pain during NVD is related to cervix dilatation. 87 percent of studied subjects considered massage therapy as an effective factor in controlling pain and mental support<sup>(10)</sup>. Comparing APGAR score at the first minutes after birth in two studied and control

groups showed doing Lamaze practices did not affect APGAR of the first minute.

Bryanton in his study showed that frequency of APGAR score below 7 at the first minute in primipara women cared by midwifery methods involved body calming, breathing and massage had no significant difference with control group. Also, for the fifth minute APGAR score showed no significant difference<sup>(11)</sup>. The mean weight of newborns of studied group was (3528.14±287.78 gr) and more than control group (3353.057±296.15 gr). It means that doing Lamaze practices have effect on birth weight. Many factors may affect birth weight of newborns like gender so that mean weight of male newborns is about 100 gr more than female<sup>(4)</sup>. If in our study mean weight of infants were extracted according to their gender, different results might be obtained. Also, nutrition pattern was taught in studied group in each session and this could

justify the higher mean of birth weight of newborns in studied group. But further studies with more samples are needed to state an absolute idea. Comparing the mean of gestational age in both studied and control groups showed no significant difference like the findings of other studies. Baker stated that gestational age of mothers who received cares by midwife was more than who received cares by physician<sup>(12)</sup>. In this study the results would differ if decision of ending pregnancy was made by midwife researcher herself.

As we mentioned before, this study showed that inclusion of Lamaze technique in maternal care programs is highly suggested.

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