

# The effect of four-phase teaching method on midwifery students' emotional intelligence in managing the childbirth

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## ABSTRACT

**Background:** An active teaching method has been used widely in medical education. The aim of this study was to determine the effectiveness of the four-phase teaching method on midwifery students' emotional intelligence (EQ) in managing the childbirth. **Materials and Methods:** This was an experimental study that performed in 2013 in Isfahan University of Medical Sciences. Thirty midwifery students were involved in this study and selected through a random sampling method. The EQ questionnaire (43Q) was completed by both the groups, before and after the education. The collected data were analyzed using SPSS 14, the independent *t*-test, and the paired *t*-test. The statistically significant level was considered to be  $<0.05$ . **Results:** The findings of the independent *t*-test did not show any significant difference between EQ scores of the experimental and the control group before the intervention, whereas a statistically significant difference was observed after the intervention between the scores of two groups ( $P = 0.009$ ). The paired *t*-test showed a statistically significant difference in EQ scores in the two groups after the intervention in the four-phase and the control group, respectively, as  $P = 0.005$  and  $P = 0.018$ . Furthermore, the rate of self-efficiency has increased in the experimental group and control group as 66% and 13% ( $P = 0.024$ ), respectively. **Conclusion:** The four-phase teaching method can increase the EQ levels of midwifery students. Therefore, the conduction of this educational model is recommended as an effective learning method.

**Key words:** Emotional intelligence, delivery, Iran, student, teaching

## INTRODUCTION

One of the chief elements in teaching the health nursing and midwifery is the methodology of the teaching the clinical skills. It has been proven that the teacher's personality

traits are not as effective as her applied teaching method, so that it is her teaching methodology which is known as "the key element" in students' learning.<sup>[1]</sup> Among the different teaching methods being proposed to teach health nursing as well as midwifery, the focus of this study is on "the active method" being introduced by Peyton in 1990.<sup>[2]</sup> This method is consisted of four phases: "Demonstration and tell phase" is the first phase in which the trainer explains about the aims of the activity and, then, she, herself, performs the needed skills. The second phase is called "deconstruction phase" when the trainer repeats the intended skills. "Comprehension phase" is the third step when the trainees should have a true understanding of what being taught and should be able to talk about it. The "performance phase" is the last step in which the trainees perform the needed skills in the presence of the trainer so that they can be evaluated by her.<sup>[3,4]</sup>

Generally, in this method, how a special object functions and a specific device is made are explained by the teacher;

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therefore, many students are taught about such skills during a short period of time.<sup>[5]</sup> Observation and looking are focused in this method. Students' learning happens once observing the needed skills. The main difference in the method compared with the previous method is that the students, in this method, work with the real devices; hence, this method is very good to be applied for the practical and the technical courses.<sup>[6,7]</sup> To increase the students' level of understanding, the teacher, at first, performs the different steps of a specific skill slowly.

In a clinical environment, this method is differently applied because of the limitations of both time and place.<sup>[8]</sup> Greif's study showed that this method had been more effective than its traditional version. After being taught by this method, the students, in the emergency room, performed well in cricothyrotomy, while spending less time.<sup>[3,9]</sup> Schwerdtfeger also found that using this four-phase method had a great impact on the nurses who contacting trauma patients. In contrast with the traditional method, this method, on the basis of the Mohammadrizi's findings, could help nurses to manage the childbirth quite well. It is also proven by other studies that any sort of method focusing on the practicality and the trainees' individual experiences can remarkably increase the students' ability in social skills.<sup>[2]</sup> This point has high importance considering midwifery. This subject is recognized as one of the stressed majors, especially, when students are involved with childbirth.<sup>[10]</sup> Therefore, in addition to being able to provide clinical treatments, the students should be highly learned about social skills. In other words, the students should be well-informed about managing the childbirth, as a critical part in midwifery, and should give the patients necessary support without having any stress or negative tensions. Abraham *et al.*, and Moral *et al.* had carried out some research works about teaching communicative skills appropriately in order to decrease the negative tensions and reinforce the positive ones.<sup>[11,12]</sup> In other words, whatsoever causing appropriate relationship with others, self-control, intrapersonal skills, interpersonal skills, compatibility, stress management, and also causing reinforcement in people's efficiency in education and skills are called "emotional intelligence (EQ)". EQ refers to the ability of recognizing the meaning of different emotions and the relationship between them as well as reasoning and solving the problems. People having a high degree of EQ are able to manage the stressful situations better because they can understand and evaluate their emotions well and they know how to express their feelings.<sup>[13]</sup> Researchers have shown that EQ is so vital for overcoming the stress, and people benefiting from this sort of intelligence have more ability in controlling their feeling and, consequently, dealing with the problems.<sup>[13,14]</sup> Concerning EQ, different studies have been performed. Zahiroddin research showed that the EQ of the students in Beheshti University in Tehran was in a medium level.<sup>[15]</sup> also Janati *et al.* had done a research study proving that in medical university of Mozandaran, only 7 (9%) of midwifery students and 18 (3%) of the nursing students had a high level of EQ.<sup>[16]</sup> Being affected by the cultural factors, this degree was very different among the students in Yazd. Sayadi Toranlo

*et al.* and his colleagues estimated the EQ of these students as 69 (2%).<sup>[17]</sup>

According to above-mentioned points, this research is conducted to focus on the necessity of having a new and practical method to reinforce the individual and social skills of the students, or generally their EQ. This point seems to be very critical concerning the midwifery students because they are involved with the mothers and also the infant's health is very important. This article, therefore, is written to study about the effect of this four-phase teaching method on the midwifery students' EQ during the childbirth.

## MATERIALS AND METHODS

On the basis of a quasi-experimental method and simple sampling, this research has been done to study about the effect of the four-phase teaching method on the EQ of the midwifery and health nursing students of Isfahan University in 2010. Thirty students participated in this study. Considering simple sampling, midwifery students, in the seven semesters, had been divided into four groups. Because previous clarifications had been done in two groups of seven people and two groups of eight people, the same is used in this study. When the students had been divided into the groups, the first two groups, randomly, received the four-phase teaching method (one group with seven people and the next with eight people) and the next two groups had been taught by means of the usual method (one group with eight people and the next seven people). Pregnancy and child birth apprenticeship courses (one and two) had been held in 40 days, during the academic year of 2011-2012. Apprenticeship courses were held during the six days. Every working day was about 6 h, either in the morning or in the evening. Three trainers, including the researcher, were teaching the students. Once asking the allowance of the respected head teacher of Isfahan Midwifery Department to work with students, during 10 days, the researcher took part in both two groups which were being taught with the normal teaching method and the four-phase teaching method. It is to say that the other two teachers, also, were present in these four groups. Having obtained the research allowance from the ethics committee of Isfahan Medical Department, the researcher gave this written agreement to the authorities and went to Shahid Beheshti University. Then, qualified people were selected for the research, those having written agreement, having had at least five childbirths without having the trainer's support, not having taken part in the similar research and not being absent more than 1 day during the apprenticeship. To evaluate and to compare the students' EQ before and after any sort of teaching, seven questions—having personal and educational questions—as well as 43 EQ questions—having five measurement degrees—were given both to the experimental and control groups. The answers had been arranged based on the Likert's five-point scale as: Totally agreed, agreed, to some extent agreed, disagreed, and totally disagreed. The range of the scores was between 43 and 215, above 129 showing the high EQ. The validity of the test was confirmed by five faculty

members of the university and its reliability, once the test had been given to the ten students, was calculated by Cronbach's  $\alpha$  as 93%.

The skills being tested were related to the subjects of the previous terms as visit and examination, chronicle and appropriate childbirth. The teacher and the head teacher of the midwifery department, in a meeting, were also informed about the aim, the nature, and the process of the experiment. During the four-phase teaching method, students at first theoretically got familiarity about the needed devices, while having them at hand. Then, they were informed about the aim and the process of the project. After that, the child birth and placenta exist were explained and shown by the teacher. At this step, the researcher tried to explain the process by means of the artificial buttock and placenta as well as the genuine devices being used in the maternity. What being taught, at this stage, had been chosen based on the pregnancy and childbirth courses and, also, standard logbook, being designed by the faculty members of Isfahan Midwifery Department. During the all practical exercises, the trainer was present to observe and control the process. Once observing how the trainer performed, the students started to work, at the first, with an unreal patients, but real devices. If they had performed well, they would have been given a chance of working with the real patients. Some teaching sessions were also held for the groups with the usual teaching method. In these groups, however, the students, after going to the maternity, considering the situation of the mother, did any needed reaction in the presence of the teacher. They were allowed to do real childbirth, if necessary. Then, they were checked by the teacher at the moment.

To analyze the data, SPSS 14 software, independent *t*-test (to compare the mean score, before and after the intervention), and paired *t*-test (to compare the inter-group scores) were used. The correlation coefficient and meaningfulness level in the entire test were 95 and 5%, respectively.

## RESULTS

The findings showed that the age average of the research units was 21.7 ( $\pm 2.01$ ) and the total average was 15.81 ( $\pm 1.01$ ). Before the intervention, the two groups were the same in terms of the total average and did not have any significant difference ( $P > 0.05$ ). The EQ mean scores of both control and experimental groups were significantly different, before and after the intervention [Table 1].

Although in the control group the mean and the SD have increased before and after the intervention, there is no significant relationship between them. This difference, however, in the experimental group is significant. There is also no significant relationship between the mean score of the experimental and control group before the intervention; however, this difference, after the intervention, increased significantly.

Table 2 shows that before and after the intervention, the increase of the mean and SD of students in control group is not significantly important; whereas, such differences in the experimental group are significantly meaningful. Generally, in the experimental and control group, the difference of scores, before the intervention, were not significantly different, but such cannot be said for the increase of scores after the interventions.

## DISCUSSION

This study has been conducted to compare the impact of both the four-phase teaching method and the current

**Table 1: Comparison of the mean scores and slandered deviation of the students in the seventh semester, before, and after the intervention**

	Before intervention	After intervention	<i>P</i> value	df	<i>t</i>
Experimental group	86.2 $\pm$ 2.4	189.8 $\pm$ 0.2	0.003	13	-1.74
Control group	88.2 $\pm$ 1.1	98.4 $\pm$ 1.4	0.41	13	-4.91
<i>P</i> value	0.43	0.001			
df	28	28			
<i>t</i>	-1.03	-2.22			

**Table 2: The comparison of the mean scores and slandered deviation (EQ scores) of the students in the experimental and control group**

Emotional sense dimensions	Groups	Mean $\pm$ SD	
		After intervention	Before intervention
Intrapersonal skills	Experimental group	10.2 $\pm$ 1.3	18.5 $\pm$ 0.2
	Control group	11.4 $\pm$ 1.2	13.2 $\pm$ 0.3
	<i>P</i> value	0.061	0.034
	df	28	28
	<i>t</i>	-1.02	-0.23
Interpersonal skills	Experimental group	12.3 $\pm$ 0.5	33.2 $\pm$ 4.6
	Control group	10.1 $\pm$ 0.1	17.1 $\pm$ 3.2
	<i>P</i> value	0.88	0.003
	df	28	28
	<i>t</i>	-0.56	-2.82
Stress management	Experimental group	11.01 $\pm$ 0.3	40.3 $\pm$ 0.1
	Control group	11.04 $\pm$ 0.5	20.1 $\pm$ 0.2
	<i>P</i> value	0.159	0.004
	df	28	28
	<i>t</i>	-0.45	-11.08
Adoption	Experimental group	12.6 $\pm$ 1.1	23.2 $\pm$ 0.4
	Control group	10.6 $\pm$ 1.2	19.1 $\pm$ 0.3
	<i>P</i> value	0.123	0.041
	df	28	28
	<i>t</i>	-0.25	-0.33
Mood	Experimental group	12.01 $\pm$ 2.4	25.0 $\pm$ 1.2
	Control group	13.01 $\pm$ 2.0	19.0 $\pm$ 1.0
	<i>P</i> value	0.090	0.022
	df	28	28
	<i>t</i>	-0.03	-0.01

SD=Standard deviation

teaching method on the EQ of the midwifery students. On the basis of the findings, it is concluded that the mean scores of the students in both methods have increased; however, the four-phased method seems to be more effective. Not only are in health nursing and midwifery, the ability to accomplish the duties important, but also the ability to use the needed skills to provide appropriate services seems to be very prominent too.<sup>[18]</sup> During the apprenticeship courses, the students are given a chance of being in real situations; therefore, they can learn the clinical duties better.<sup>[11]</sup> It is, hence, their high EQ which would help them to make the best decision in providing the nursing and midwifery help.<sup>[19]</sup> According to the research of Moral in Spain, testing 193 medical students, and Pike in UK, it has been proven that social skills (as one of the dimensions of EQ) have been more evident among the groups having been taught by the active method (which practically show the procedures to the students in a real situation) than those in the control group.<sup>[12,20]</sup>

This is to say that, however, Jenko's study in showed that statistically freshmen students' heart massaging skills, once being taught by the four-phase teaching method, had no significant difference with the students in the control group. Probably what makes this study's findings different from the Jenko's one is the difference of the courses of the study; in that, in Jenko's study, the freshmen students, and in this research, junior students, had been studied.<sup>[21]</sup> It seems that freshmen students need to work and practice more than junior students. The studies of the Ebrahim and Frpnda showed that using the active and practical methods had positive effect on the students' social skills and positive intentions and had decreased the negative psychological factors.<sup>[12,19]</sup> However, the findings of Zraick and Schwartz were something very different.<sup>[22,23]</sup> On the basis of studies, two groups of students were selected. In the first group, students were taught by observing the trainer's performance and, then, they repeated that in the real situation. However, for the next group, the traditional method was used to teach them the social skills. The findings showed that neither the first nor the second group had any significant superiority over each other. Then, they recommended that more research are needed about this new method.<sup>[22,23]</sup> The reasons why their research findings are different from this very research can be categorized as: Not having an exact evaluation method and not designing appropriate devices as well as compatible lesson plans. Although this four-phase teaching method has improved the students' performance, it is criticized because of some issues as: Spending too much time for explaining and showing the skills to the students and having only one trainer during the teaching.<sup>[24]</sup> This research, also, confronted with some limitations which were as: Transferring the date and explaining the method in the dormitory and inevitable exchange of the experiences between the students in the experimental and the control group. Because few samples are studied in this research, it is recommended that this research be done again in the future, focusing on all midwifery students during the two semesters. That is when the above-mentioned problems would, to some extent, decrease.

## CONCLUSION

The findings of this research showed the effectiveness of the four-phase method on the EQ of the students. Therefore, the teachers can make use of this method in their educational programming so as to improve the students' performance as well as their EQ.

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