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The Effects of On-the-job and Workshop Training Methods on Performance of Midwives in Report Writing

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ABSTRACT

Background & aim: One of the most important professional duties of midwives is writing the reports, which considered as legal documents. Incomplete reports can resulted in misunderstanding and even lead to filing charges against midwives by the legal authorities. Therefore, this study aimed to investigate the effects of on-the-job training (OJT) and workshop training methods on the report-writing performance of the midwives working in the teaching hospitals.

Methods: This quasi-experimental study was conducted on 70 midwives working in Imam Reza and Ghaem hospitals, Mashhad, Iran, in 2018, who randomly allocated to two OJT (N=35) and workshop group (N=35). Following obtaining an informed consent, a pre-test examination was performed before the intervention. The OJT group received the required trainings before and at the patients' bedside during their work shifts. Workshop training group received lectures and practical works as the comparison group. The performance scores of the midwives were compared in both groups in three stages of pre-intervention, during the intervention, and one month post-intervention. All the data were analyzed by Mann-Whitney U test and Friedman test using SPSS software (version 24).

Results: Our findings showed no significant different in terms of pre-intervention performance score (P=0.539). However, the scores of performance in the OJT group were significantly higher than those in the workshop group during the training program and one month post-intervention ($P < 0.05$).

Conclusion: We argue that the OJT method can be considered an effective intervention in improving the report-writing performance of midwives.

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Introduction

The Institute of Medicine in the United States of America defines medical errors as negligence in the full implementation of the pre-planned measures or adoption of wrong methods for achieving a goal (1). Although all medical disciplines are associated with patients, midwives work with mothers, fetuses, newborns, and their families as well (2). As a result, medical errors committed by midwives are accompanied by numerous problems for mothers, such as childbirth injuries (3), increased rates of cesarean section, low success rates of vaginal delivery (4), and mortality, in addition to multiple complications for fetuses and newborns (5). Moreover, abundant economic and financial consequences may arise. For example, about 20 million dollars are annually spent on medical errors in the United States (6,7).

The first step to control, prevent, and diminish medical errors is the identification of their causes. In other words, it is of great importance to clarify why and how the medical errors occur

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in a system. Therefore, the likely weaknesses of a system in terms of management, environment, and education, paving the grounds for such errors, should be detected (8).

Patient care is known as an essential component in the domain of healthcare services (9) and midwives have long been recognized as the caregivers of the mothers, as well as fetuses and newborns (10). According to the Medical Council of Razavi Khorasan province in 2016, the most common medical errors committed by the midwives included the wrong interpretations of the test results, failure to write correct reports, lack of taking thorough history, and nonprovision of timely reports of patient conditions to physicians (7).

Consequently, writing a report, also known as the long-lasting legal document, is concerned as one of the key professional duties for midwives (11). Studies in this regard found that writing incomplete reports has always led to misunderstanding and charges against midwives by the legal authorities. Such investigation in Iran in 2015 revealed that only 17.9% of the midwives could write reports at a favorable level. On the other hand, 35.8% of the evaluated subjects were found to write incomplete reports (12, 13).

It is clear that learning has a direct effect on the performance of the individuals. In other words, the successful fulfillment of the tasks can enhance people's work in terms of following the rules and regulations. As a result, training the staff is taken into account as an important investment for an organization. In order to implement a training program, the selection of an appropriate method is one of the most essential activities during curriculum design (14).

Learning in the traditional ways, such as lectures and workshops, is sometimes necessary for all domains because these methods are suitable tools for providing basic information and transferring experimental science. In some circumstances, the mentioned practices are even the most appropriate teaching method. Nonetheless, these methods fail to give the chance of thinking to individuals, which is indispensable in learning and better performance. The new active techniques are currently being used in a wide variety of sciences, including medical science. Therefore, during the recent decades, a need has been felt to revise the traditional teaching methods and apply new techniques in the educational systems (15).

Execution of workshops is a routine teaching method for staff training. Studies in this regard have reported that medical staff face various problems, including family issues, fatigue, lack of motivation, and no substitute staff despite their willingness to participate in common training programs, such as lectures and workshops (16). Results of a study performed by Jocobs et al. (2005) showed that most of teaching methods were likely to have a significant influence on the knowledge and attitudes of the learners while no impact was observed on their performance.

On the other hand, on-the-job training (OJT), regarded as a type of non-focused training, has been suggested to dramatically influence performance (17). In the latter method, employees are placed in real work situations, followed by receiving real occupational needs and required training. Therefore, this technique could be concerned as one of the quickest, as well as the most effective and objective ones. Furthermore, in this method, the learners do not leave their workplace. Some other benefits of this method entail short-term training duration, applying the educational tools and equipment in work environment, time-saving advantages, and prevention from work recession or interruption.

With this background in mind, common medical errors should be considered as remarkably important in midwifery. Consequently, the present study compared the effects of OJT and workshop training methods on report-writing performance of the midwives working in the teaching hospitals of Mashhad, Iran, in 2018.

Materials and Methods

This quasi-experimental study was conducted on a total of 70 midwives working in the teaching hospitals of Mashhad, Iran. The participants were selected through convenience sampling technique and randomly allocated into two groups of intervention and control. The study was approved by the Ethics Committee of Mashhad University of Medical Sciences and an introduction letter was obtained from the School of Nursing and Midwifery for the hospitals. Afterwards, the study population was selected from the midwives working in Imam Reza and Ghaem hospitals of Mashhad.

Given that no similar studies were found to examine midwives using OJT and workshop training methods, the sample size was determined based on a pilot study. The mean and standard deviation of the statistical population were found by this pilot study, and the sample size was calculated using the formula for comparing the means. Considering a confidence level of 95% and a test power of 80%, a total of 32 individuals in each group could create an effect size of 50%. Due to sample drop out, the sample size was increased by 10% and the number of participants in each group was determined as 35 individuals.

The subjects were selected based on the inclusion and exclusion criteria using convenience sampling method and were randomly assigned to the two groups of test and control through block allocation. The inclusion criteria encompassed 1) expressing informed consent to participate in the study, 2) having a work experience of more than one year, 3) holding at least a bachelor's degree in midwifery, 4) experiencing no major life events or stress, such as death of a family member and divorce within the last six months, and 5) receiving no training about medical errors in midwifery.

The exclusion criteria entailed: 1) unwillingness to continue the study, 2) taking leave from work during the study, 3) experiencing major life events and stress, including death of a family member and divorce during the study, 4) not attending one of the training program sessions or tests, and 5) receiving other trainings for medical errors in midwifery during the training program sessions and tests.

Valid scientific resources, related articles, and textbooks published about common medical errors were used to prepare the educational content. In order to meet the ethical considerations, the midwives received explanations concerning their performance evaluation at the pre- and post-intervention stages in their work shifts and were ensured in terms of information confidentiality.

Following obtaining an informed consent from the midwives and completing their demographic characteristic form, the pre-test performance evaluation was conducted. To this aim, the performance of the midwives was assessed during work shifts within the week before training. To avoid bias in performance evaluation, an assistant researcher was recruited who was unaware of the group assignment of the participants. The assistant received instructions regarding how to complete the performance checklists.

First, all the midwives participated in the theory-based session wherein the educational content was presented in the form of lectures for 2 h. Afterwards, randomization and assignment to the two groups of intervention and control were completed. The control group received workshop training for 4 h. The workshop included three scenarios preplanned by the researcher, which were explained for 30 min. Next, the midwives were asked to make five smaller groups of seven individuals and discuss the scenarios separately.

It should be noted that 70 min was allotted to each scenario as 5, 30, 25, and 10 min for the introduction of the scenario, group discussion, presentation of the reports by the groups, and wrap-ups by the teacher, respectively. During this phase, the researcher had a leading role and aimed to answer the questions raised by the groups.

The subjects in the intervention or OJT group received training at the patients' bedside after the two-hour theory-based session. For this purpose, the participants were divided into groups of 2-3 individuals in the nearest work shifts on duty and completed training at the bedside during 4 h in two phases.

The first phase was practicing the correct techniques of writing reports at the bedside by the researcher and midwives for 2 h. At this phase, the correct techniques were taught during work by the researcher, and the training program was fulfilled according to the existing situations and the time needed for writing reports. At the second phase, the correct techniques were practiced at the bedside by the midwives alone for 2 h and performance errors were corrected. In both groups, performance evaluation was accomplished immediately after the training program at the nearest work shifts, and then a month later in a single-blind form by the researcher.

The data collection instruments in this study

included demographic characteristic form and observation checklist for evaluating the report-writing performance of the midwives. All the forms were researcher-made and based on valid articles or other resources. This observation checklist for assessing the report-writing performance of the midwives was designed with a maximum score of 14.

The validity of the demographic characteristics questionnaire and observation checklist was determined by content validity using the expert opinions of seven faculty members at Mashhad University of Medical Sciences. The reliability of the demographic data questionnaire was also assessed using internal consistency. In this respect, the reliability of this research instrument was calculated rendering Cronbach alpha coefficients of 0.9 and 0.77 in the workshop and OJT groups, respectively.

During the study, two individuals were excluded from the study. In this regard, one participant was excluded during the workshop training group due to taking sick leave and another one was removed from the OJT group because of unwillingness to continue the study. Therefore, statistical analysis was carried out on a total of 68 subjects by the descriptive tests (e.g., mean and standard deviation), Mann-Whitney U test, and Friedman test using SPSS software (version 24). A p-value less than 0.05 was considered as statistically significant.

Results

Finally, out of the 70 participants, 68 individuals completed the study. The findings of this study revealed that both groups were homogenous in terms of mean age (P=0.99), duration of employment (P=0.55), and weekly working hours (P=0.81). The mean ages of the participants in the workshop and OJT groups were 35.6±8.41 and 35.66±7.22 years, respectively. Furthermore, the mean durations of employment were 9.59±7.22 and 10.66±6.83 years, respectively. The mean weekly working hours in the workshop and OJT groups were obtained as 55.10±12.23 and 57.21±5.64 h, respectively (Table 1).

Table 1. Mean, standard deviation, median, and interquartile range of age, employment duration, and weekly working hours in both study groups

Variable	Group				Mann-Whitney U test results
	Intervention		Control		
	Mean±SD	Median (Interquartile range)	Mean±SD	Median (Interquartile range)	
Age	35.6±8.41	38 (15)	35.6±7.22	36 (11)	Z=-0.012 P=0.091
Duration of employment	9.59±7.22	10 (13)	10.66±6.83	11 (11)	Z=-0.624 P=0.533
Weekly working hours	55.1±12.23	58 (16.25)	57.21±5.64	58 (8.50)	Z=-0.239 P=0.811

The mean scores of pre-intervention performance were not significantly different between the two groups (P=0.539). However, there was a significant difference between the two groups in terms of the mean scores of performance immediately and one month after the training program (P<0.001). According to the Mann-Whitney U test results obtained immediately and one month post-intervention, a significant difference was shown between the performance scores of the two groups (P<0.001). Moreover, the results of Friedman test for intergroup comparisons demonstrated that the mean scores of pre-intervention performance had significant differences with the mean scores immediately after the training program in both groups (Table 2).

Table 2. Mean and standard deviation of the report-writing performance of the midwives regarding common medical errors before training, immediately after training, and one month after the training program in both groups

Variable		Group				Mann-Whitney U test
		Workshop training		On-the-job training		
		Mean±SD	Frequency	Mean±SD	Frequency	
Report-writing performance of the midwives regarding common medical errors	Before training	7.80±1.64	35	7.77±1.80	35	Z=-0.614 P=0.539
	Immediately after training	9.23±1.66	35	10.60±2.06	35	Z=-3.128 P=0.002
	One month after training	9.09±2.06	35	12.51±1.63	35	Z=-5.696 P<0.001
	Mean score variances before and immediately after training	1.43±2.26	35	2.83±2.55	35	Z=-2.277 P=0.023
	Mean score variances before and after training	1.29±2.67	35	4.74±2.17	35	Z=-5.009 P<0.001
Friedman test results		X^2=14.224 df=2 P=0.001		X^2=48. 806 df=2 P<0.001		

Discussion

According to the results of the present study, OJT method could significantly enhance report-writing performance in the midwives immediately and one month post-intervention. Literature review of the related databases by the researcher was not limited to the investigations examining the effect of OJT and workshop training methods on the correct report-writing performance of the midwives. In other words, the findings of other studies in Iran and distinct countries investigating the impact of each method alone on the variables considered in the present study or other variables, as well as those of the research evaluating the influence of various training methods on the dependent variable of this study, were compared and discussed.

In a descriptive study carried out by Sotoudeh et al. (2015), the effect of OJT method on the performance of the employees in Iranian oil companies was investigated. The results of this study indicated that staff training through OJT technique had a significant impact on the performance and motivation of the employees for boosting their productivity, and their performance improved significantly. Findings of the mentiond investigation were in agreement with the results of the present study in spite of the differences in the educational settings, demographic characteristics of the participants, and research designs.

In terms of using appropriate training methods, the findings revealed by Cheraghi, Managheb, and Mahmoodabadi (2014) were in line with the results of the current study. In this respect, Cheraghi et al. (2014) found that highlighting the importance of midwifery training concerning the criminal and legal aspects, as well as medical errors and their complications, might diminish the professional errors of the midwives (17).

An investigation in Jahrom University of Medical Sciences compared the effect of a training method comprised of role-play and group discussion for learning how to give bad news. The latter study showed that role-play might be a suitable and useful teaching technique for training communication skills and could be of priority compared to group discussion (18).

Moreover, the results of the study performed by Mahmoodabadi et al. (2013) suggested that teaching legal issues associated with midwifery

through retraining programs and workshops can enhance the knowledge of the midwives. In addition to raising awareness among these individuals, legal issues in midwifery could be moderated and midwives may benefit from higher occupational health status.

Consistent with the findings of the aforementioned studies, it should be noted that workshop training method compared with lecture-based technique could lead to further learning, longer retention of information, and more fun in learners (19, 20). In the present study, the OJT method as an active educational approach could boost the performance scores of the midwives. It should be noted that OJT is one of the most modern and effective methods for long-term learning (21).

Limitations of the current study included the lack of similar investigations on learning outcomes related to report-writing performance to determine the sample size. Therefore, further studies regarding the implementation of self-centered and active learning methods, along with OJT in larger samples, are recommended. Furthermore, it is suggested to compare the effects of OJT and workshop training methods on knowledge, attitudes, and practices regarding common medical errors in midwifery students.

Conclusion

Findings of this study indicated that compared to workshop training method, OJT could enhance correct report-writing performance in midwives. Consequently, it might be concluded that OJT method could be utilized for teaching correct report-writing skills to the midwives.

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Conflicts of interest

Authors declared no conflicts of interest.

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