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Comparing the Effect of Standardized Patient-Based Training with Team-Based Learning on the Midwifery Students` Skill in Taking History of Rape Victims

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ABSTRACT

Background & aim: Accurate history-taking from sexual assault victims is the basis of correct diagnosis and treatment. Considering the serious consequences of sexual assault and the necessity of students' training through active educational methods, this study was conducted to compare the effect of standardized patient-based training and team-based learning on the midwifery student' skill of history-taking from the victims of sexual assault.

Methods: This quasi-experimental study was conducted among 75 students of nursing and midwifery in Mashhad University of Medical Sciences, Mashhad, Iran. The subjects were randomly assigned to two groups of standardized patient-based training (38 students) and team-based learning (37 students). After holding a pre-test, each group trained separately for 2 hours. Post-test was held a week post-intervention. Data were collected using a questionnaire containing demographic data, educational profiles, and performance checklist. Data analysis was performed in SPSS software, version 4.

Results: The groups were equal regarding demographic, educational, and occupational data. The average score of students' history-taking skill at the post-intervention phase was 32.0±2.3 and 30.0±4.5 in the standardized patient-based training and team-based learning groups, respectively (P=0.015). There was a significant difference between the groups considering the increase of scores (P=0.039).

Conclusion: The impact of using a standardized patient-based training approach on improving the skill of student in history-taking of sexual assault victims was more than team-based learning.

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Introduction

Today, sexual assault, which is defined as completely unlawful intercourse by forcing the victim, became a global major problem. According to the literature, around one-seventh to one-fifth of American women were the victims of sexual assault (1). Statistics on rape are not available in Iran; however, several studies demonstrated that the rate of sexual assault was 22-25% and 12-36% among prostitutes and runaway girls (2).

Sexual assault has severe physical, mental, and social effects and could lead to fertility and sexual health problems such as unwanted pregnancy and sexually transmitted diseases. The mental influences of this phenomenon include depression, addiction, post-traumatic

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stress disorder, and suicide (1, 2). The victims require comprehensive and gender-sensitive health services to cope with the physical and mental effects of this traumatic event. Healthcare providers play a major role in the diagnosis, treatment, and prevention of rape. In many countries including Iran, treatment services are available for victims. Regarding the evidence, several countries have a comprehensive and overall plan for providing services for rape victims.

In addition, trained staffs satisfy the need of the victims to treatment in sexual violence services. All midwives and other medical staffs will face rape victims and their skills for providing clinical services have an important impact (2). In face with such victims, a realistic and neutral person, who does not judge should talk to the victim in a calm space (3). The interview is the most important part of the process (4). History-taking is the first item trained to the students of medical sciences. Nowadays, history-taking is a priority for the clinical educations and student of medical sciences that should be trained carefully (5). Medical interview is a kind of purposeful conversation with the patient. The principal goals of this action are collecting information from the patient, making an emotional and protective communication with the patient, and presenting advice and consulting (6). A proper history-taking leads to having a real history of the patients and their past medical history. In addition, an accurate history helps in preparing an appropriate treatment plan. It has a main effects on decreasing treatment errors, following up treatment process, immediate recovery, and reducing the length of stay in hospital (7, 8).

History-taking is a concern for training and research staffs in non-medical courses. It is represented that there are many failures to communicate with patients and take history. In addition, there are not enough training courses in this regard and active training methods as a way to acquire knowledge and skills by the students are not used (8,9). Midwifery students are potential personnel in medical wards that should receive high-level training quality to deliver proper midwifery cares to women (10). According to the results of a study conducted by Rochester et al. in 2005 among midwifery graduates in Sydney, the students had not adequate ability in the real world (11). Now, there is no training course for midwifery students focusing on rape and providing health care to the victims (12). Training methods are important subjects for medical training. Main education way is in medical universities and through lectures; however, there is no deep learning (13).

In such situation that teaching or assessing of a complex physical-mental responsibility such as history-taking is required, simulation is a useful training tool. There are various methods for teaching these skills including the use of standardized patient or simulated patient. Standardized patients are specially trained people, who play the role of a real patient. They might be real patients that tell their history to train, assess, and practice the communication skills of medical staffs. Saboori et al. in 2009 proposed that standardized patient provides a proper situation for learning the skill of history-taking and communicate with the patient (4). The results obtained by Fitzpatrick et al. in 2012 represented the positive effects of the simulation technology on sexual assault forensic examiner's training (14). On the other hand, Schwartz et al. in 2007 determined that using a simulated patient had no more priority and advantage than case-based training (15). Although standardized patient training program hones clinical skills including history-taking, it has several limitations such as taking time for providing a scenario, lack of reality of scenario, and being expensive and stressful (9). Team-based learning method promotes learning quality of the students via increasing problem resolving skill. In this method, the students are trained in energetic class and active groups. Additionally, these classes can be held with a trainer in a big class (over 10 students and one trainer) (16).

The results of the study carried out by Vaezi et al. in 2015 represented that 97.7% of the students were trained using team-based learning method. This method developed communication skills and concept understanding, facilitated learning, and gave their self-confidence a boost (16). Jina et al. in 2014 demonstrated that training the medical care following a sexual assault to healthcare providers is crucial.

Moreover, this plan is essential to achieve high quality women's health and develop training quality for midwifery students (17, 18). There is no specific chapter for rape in curriculum of in-service training among midwives. Furthermore, it is important to develop different models of teaching and to compare them. Therefore, the present study was performed among midwifery students to compare the effects of standardized patient-based training and team-based training on history-taking from the victims of sexual assault.

Materials and Methods

This quasi-experimental study was carried out among two groups after taking permission from Ethical Committee of Mashhad University of Medical Sciences, Mashhad, Iran. Sampling was started through writing an introduction letter to the Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, in 2017. There was no similar study in the literature that consider the skill of midwifery students in two methods.

The sample size was computed as 37 individuals per group with 95% confidence interval, 80% test power, and 65% effect in each group. Ultimately, regarding 25% sample attrition, 45 subjects per group were considered. The study population were the Bachelor and Master's students in Midwifery, Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences. The participants were randomly selected and assigned to two groups of 47 people.

Finally, 19 individuals left the study for personal reasons such as unwillingness to participate, not completing the post-test, etc. The inclusion criteria entailed signing written consent, modified training course related to sexual assault, not having teaching records in this field, and not experienced unpredicted events during past 3 months. Further, the exclusion criteria included not participating in all phases of training or term tests, experiencing unpredicted events and accidents, participating in another training course related to sexual assault during this process and further sessions.

The researcher explained the goals of the study and then fulfilled questionnaires for selecting course through interview. The participants were aware that they can freely withdraw from the study whenever they want. Pre-test was held as filling a demographic form and evaluating the students' skill of history-taking from the sexual assault victims through an objective structured clinical examination. An examiner filled a checklist to assess their skill.

This checklist was completed using valid sources and international protocols related to history-taking from sexual assault victims, designed by several professors. The mentioned checklist included 39 questions scored from 0 to 39. The validity of the tool were confirmed using content validity. Its reliability was evaluated using the observer reliability. The performance of ten participants was simultaneously evaluated by two observers and the history-taking checklist was completed. The Kappa agreement coefficient (r = 0.75) showed that the reliability of the checklist and the researcher was approved. Training started 1 day after holding pre-test in Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

The training syllabus was the same in both groups and regulated based on international protocols, articles, and sources. In addition, at the end of pre-test phase, the curriculum was given to the candidates and they were asked to read the pamphlet before training. After explaining training process and duties of the participants, the students in the standardized patient-based group were divided into four subgroups with the same educational level.

Each group was given a simulated patient with distinct scenario for 30 minutes. The groups should have communicate with the patients and take a full history from them and make a diagnosis. Thereafter, the representative of each group should be interacted with stimulated patients in the presence of other candidates for 15 minutes. The other subjects should have assess their communication and history-taking skills.

Finally, after discussing each item for 30 minutes, the researcher collected the facts and answered the questions (training term: 2 hours). After explaining training process, the participants in the team-based training group were classified to four subgroups with the same educational level. After naming the groups,

training was initiated in six phases, namely, individual test (a test with 20 multiple choices questions of training content), team test, appeal (referring to training sources and defending answers), assigning group tasks and feedback for each group, criticizing peer group and other students, assessing pears, collecting considered issues, and introducing top candidates of groups (training term: 2 hours).

A week later, the post-test was held in both groups at the same time. Data analysis was performed using descriptive statistics, Kolmogorov-Smirnov, Shapiro–Wilk test, Chi-squared, Fisher's exact, Mann-Whitney U, and Wilcoxon signed-rank tests, as well as paired and independent samples t-tests in SPSS software, version 24.

Results

The mean ages of the students in standardized patient- and team-based groups were 23.4±5.3 and 23.6±6.0 years old, respectively. In addition, 12 (32.4%) and 25 (67.6%) students of standardized patient-based group were living in dormitory and private accommodation, respectively. Additionally, 9 (24.3%) and 28 (75.7%) students of team-based group were living in dormitory and private accommodations.

Table 1. Demographic data of the participants

Variable	Standardized patient-based training group	team-based training group	Chi-squared test result
	Quantity (%)	Quantity (%)	
Program			
Undergraduate	30 (78.9)	29 (78.4)	Chi=0.0, df=1
Graduate	8 (21.1)	8 (21.1)	P=0.952
Total	38 (100.0)	37 (100.0)	
Marital status			
Single	20 (52.6)	28 (75.7)	Chi=5.09, df=1
Married	18 (47.4)	8 (21.6)	P=0.02
Total	38 (100.0)	36 (100.0)	

Moreover, in each group, eight students were working as an employee. The average hours worked in standardized patient- and team-based groups were 42.9±18.4 and 34.7±15.8 hours a week, respectively. Based on the results, the groups were equal regarding the age, place of residence, occupation, working hours, and educational level (Table 1). However, they were not equal considering marital status. The results represented no significant difference between the groups considering the marital status of the candidates (P=0.062 and P=0.283). Therefore, marital status variable has not a confusing role in this study.

Table 2. Mean and standard deviation of the scores of history-taking skill at the pre-intervention phase and 1 wekk post-intervention

	Standardized patient-based group	Team-based group	Inter-group test result
	Mean±standard deviation	Mean±standard deviation	
Before intervention	5.3±3.1	5.5±2.9	U=662.0 P=0.663 Mann-Whitney
a week post-intervention	32.0±2.3	30.0±4.5	U=473.0 P=0.015 Mann-Whitney U
Difference of the score before and 1 week after intervention	26.7±3.8	24.5±5.1	t=2.1, df=73 P=0.039 Independent samples t-test
Inter-group test result	Z=5.4 P<0.001 Wilcoxon	t=29.2, df=36 P<0.001 Paired sample t-test	

In this study, most of the students in standardized patient-based training group (45.09%) and team-based training group (40.5%) were interested in midwifery. The results of Mann-Whitney U test demonstrated that the groups were equal regarding this variable (P=0.770). Additionally, 81.6% and 89.2% of the subjects in the standardized patient- and team-based training groups had no particular study on sexual assault.

The candidates in the standardized patient-based training group (44.7%) and team-based training group (35.1%) needed to study new issues and topics about sexual assault. According to the results obtained by Chi-squared and Mann-Whitney U tests, the groups were equal in terms of the mentioned variable (P=0.352 and P=0.088).

The mean score of the candidates' history-taking skill was incised a week post-intervention (P=0.001). Furthermore, the groups were equal considering this skill at the pre-intervention phase (P=0.663). The results of independent samples t-test 1 week post-intervention showed that the mean score of this skill in standardized patient-based training group was significantly higher than team-based learning group (P=0.039; Table 2)

Discussion

In the present study, the skill of history-taking from the victims of sexual assault was assessed among the students of midwifery. This skill was significantly improved 1 week after training; however, the standardized patient-based training strategy had more impact on this skill rather in comparison to team-based learning.

The results of a study performed by Fitzpatrick el al. in 2012 to determine the effect of training sexual assault forensic examiners by simulation method represented that the majority of candidates obtained more than 85% of checklist score for clinical skills (14). Saboori et al. in 2009 investigated the effects of standardized patient-based training method on history-taking skill of 95 medical students. They represented that the average of skill score in the intervention group was significantly higher than the control group (4).

Haist et al. in 2004 evaluated the impact of standardized patient-based training intervention on clinical skills of medical students in managing patients with HIV and taking-history. The candidates represented a better operation rather than candidates whose method was independent method (19).

Ardaghi et al. in 2013 performed a clinical trial to compare the impact of standardized patient-based and workshop methods of teaching on midwifery students' clinical skill in providing sexual health counseling. The results showed that standardized patient-based training method was more effective in promoting the clinical skills of the students than workshop (9). Despite the differences between these studies and the present study in terms of training methods, study population, training hours, instructor's training goals, and the motivation of the students for attending in workshop, the results of the present study were in line with these studies.

Akbari et al. in 2016 carried out a study into determining the impact of team-based learning method on practical skills of 48 students of dentistry. They confirmed that the average score of candidates was higher than those who did not participate in this study. This method improved learning for the practical courses of dentistry (20). Azadbakht et al. in 2011 performed a study among 33 students of nutrition sciences. They expressed that training through team-based learning method based on problem-solving made fundamental changes in learning, clinical skills, and attitude of the students. In addition, the students could apply their theoretical knowledge to a real work situation (21).

Although the results of the present and other studies supported the effect of standardized based-patient training method on improving history-taking skill, the present study represented that team-based learning method could form an acceptable deep and active learning through decreasing charges and saving time. Schwartz el al. in 2007 compared the impact of patient- and simulated patient-based training methods on the skills of 102 medical students to manage patients with myocardial infarction and cardiac arrest.

According to their results, there was no superiority for simulated patient-based training over case-based training (15). This inconsistency

might be due to the topic and contents of training, study population, and different strategies in research and data collecting tools. The case-based training and stimulated patient-based training methods, which were compared in the present study, are two experience-based techniques.

Pickard et al. in 2003 demonstrated that students who learned pelvic exam by a standardized patient were more skilled regarding clinical, consulting, and communicational aspects than those who were trained traditionally (22). The results obtained by Klieinman et al. in 1996 represented that applying standardized-patient method for pelvic exam training bears no more advantage than control group (23).

Among the reasons for the difference in results between Klieinman studies and the present study, it is worth mentioning that although applying learning-teaching active methods deepened learning for students, raised, their satisfaction for learning and improved their abilities, many elements such as students' readiness, motivation, learning environment, practice, and repetition can affect learning of the individuals and important elements such as teaching method of the instructor is one of these factors.

In the present study, standardized patient-based training method was applied to hone history-taking skill, while Klieinman used this method for improving pelvic exams skills. In the present study, the score of history-taking from the victims of sexual assault in standardized patient-based training group was more than the other group 1 week post-intervention. This result might be due to the fact that standardized patient-based training method is a unique teaching modality for learning and assessing.

Exposure to standardized patients is a chance for medical students to learn and apply effective communication and assess victims of sexual assault without imposing real patients. Standardized patients provide real clinical experiences for developing clinical and interpersonal skills. Additionally, this technique makes it possible for students to deal with diseases through story, symptoms, and physical examination, as well as individual emotional responses (24, 9).

Several limitations of this study included information dissemination among research units for the candidates reside at dormitory. The researcher tried to select the samples from different dormitories of the university. Attentional bias caused by placing individual in the study was another limitation. The strength of this research was comparing two active experience-based and collaborative training methods. To the best of our knowledge, there was no similar study conducted on this issue so far.

Moreover, this study was approved by the Ethics Committee of Mashhad University of Medical Sciences under the code No. IR.MUMS. REC.1396.7. A written informed consent was obtained from the research and study departments and the candidates.

The results represented that standardized patient-based training method was a proper opportunity for learning history-taking and communicating with patient skills. It is recommended to perform further studies to compare these method with other active training methods for improving history-taking from rape victims, as well as the impact of these methods on the skill of other students and midwives, such as clinical and treatment examinations.

Conclusion

Training through two methods including standardized patient-based training and team-based learning promoted the skill of students of midwifery to take history from the victims of sexual assault. Otherwise, the impact of standardized patient-based training on improving this skill was fulfilled through team-based learning method. Therefore, using mentioned training method as a useful and active method for training students of midwifery was proposed.

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Conflicts of interest

The authors declare no conflicts of interest.

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