

Comparing the Effect of Workshop and Podcast Training on Knowledge and Performance of Midwifery Students Regarding Legal and Religious aspects of Egg Donation

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ABSTRACT

Background & aim: The increased prevalence of infertility and using assisted reproductive technologies including donation procedures has currently become a public concern. The familiarity of midwives with legal and religious aspects of these procedures is a salient issue in their care giving practice. However, this issue has been less considered in the curriculum planning for midwifery students. Thus, this study investigated the effect of workshop and podcast training on midwifery students' knowledge and performance in terms of legal and religious aspects of egg donation.

Methods: This quasi-experimental study was conducted among 60 undergraduate midwifery students of Islamic Azad University of Mashhad and postgraduate midwifery students at Mashhad School of Nursing and Midwifery, Mashhad, Iran. The university students in the workshop group were trained through lectures accompanied by PowerPoint files for a total of 6-8 hours, while the podcast group received three separate 25-minute audio files and discussed them in a Telegram-based group. The objective structured clinical examination was also administered before and two weeks after the training course at four stations. To analyze the data, Chi-squared test, paired t-test, and independent t-test were run in SPSS, version 16.

Results: The mean knowledge scores were significantly different between two groups ($P=0.004$); however, no significant differences were observed between them in terms of educational performance ($P=0.63$).

Conclusion: Podcast-based training using Telegram was more effective in promoting the students' knowledge regarding legal and religious issues associated with egg donation compared to workshop training; nevertheless, educational performance increased in the same level using both methods.

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Introduction

Infertility is deemed as one of the most important reproductive health problems, and its rate in Iran has been estimated at 13.2% (1-4) and the pregnancy rates resulting from egg

donation have been reported to be more than 45% (5). Egg donation is considered an assisted reproductive method which materializes fertility for infertile couples (3). Iran is also the

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only Islamic state where types of donation along with payments for donors have been accepted and administered referring to the judgments and decisions made by the supreme religious references and authorities (6).

Donation methods entail adding an individual out of the family to help in family fertility, and arrival of a person from outside the family can bring about psychological, religious, ethical, and legal problems (3, 7). Moreover, lack of attention to the decisions declared by the great religious references in terms of gamete donation, which are sometimes discrepant and contradictory, can cause serious future concerns among donors, and particularly, recipients. Accordingly, use of these therapeutic methods is not recommended, except in cases where awareness and complete assurance of religious issues are gained and legal outcomes are considered. Hence, the legal dimensions of this process and its codified laws and instructions need to be clear (3).

Concerning gamete donation and commodification of the womb and given the silence of law in this respect, the decisions made by the supreme religious references can be invoked in accordance with Article 167 (Article 167 of the Constitution of the Islamic Republic of Iran states that: "The judge must endeavor to base his judgment in each case on codified laws. If he cannot find such basis, he should deliver judgment on the basis of authoritative Islamic sources and reputable rulings. He may not refrain from admitting and examining cases and delivering judgment on the excuse of the silence or inadequacy of law in a matter, or its being general or ambiguous") (3, 8, 9). Regarding legal issues, countries have their own different choices in terms of anonymity of the identity of donors and recipients, as well as interests and rights of donors and recipients in terms of confidentiality. There are also numerous legal cases in the domain of donation and pregnancy of the third person including parental rights for confidentiality of the process, right for identity confidentiality, donor information, and rights of children to know about their origin (5).

Gaining skills in terms of provision of counseling services not only requires learning at knowledge level, but also needs learning at higher levels. Above all, effective learning is the result of effective teaching, which is obtained through creative methods that motivate learning including active teaching methods such as training workshops (10).

A workshop is a short-term intensive training program with a series of short lectures in conjunction with group work and reporting. It is aimed at practical transfer of knowledge and acquisition of skills on a specific subject with the participation of a limited number of individuals (11). In this respect, the study by Ahmadijouybary et al. (2013) showed that workshops had a stronger effect on raising awareness of general practitioners in the domains of respiratory infections compared with lectures (12).

Mobile learning is also considered as a kind of electronic and distance learning (13). Podcasts are digital audio files that are available on the Internet and can be downloaded to computers and audio players as portable files (14). The advantage of using podcasts as an alternative for lecture-based classrooms is being time-saving (15). However, interactions can have a significant impact on creating an appropriate learning environment and making links with training courses (16). Social media, including Telegram, can similarly provide opportunities for interactions and question and answer in training courses (17). According to a study by Benjamin et al. (2010), video podcasts cannot be a substitute for lecture-based methods, but they can play an important role in reinforcing learning (17, 18). The results of the investigation by Abate et al. (2012) also revealed that educational content in the form of segmented podcasts can be more effective than lectures and unsegmented podcasts (18, 19).

In the Islamic culture, jurisprudence and medicine are closely related such that medical directives have been issued alongside many religious rulings by Imams (19, 20). Since midwives encounter different legal and religious issues in their work and women receive these services from midwives and physicians, it is essential to provide the right information to

the clients by midwives in this regard (20, 21). Midwifery students as future midwives, who are to inform infertile couples in this regard, need to become aware of legal and religious issues. However, this issue has been neglected in undergraduate and graduate midwifery curricula. Azimi et al. (2012) and Banaeian et al (2007) also stated that knowledge and performance of students and midwives about religious rules and laws related to the profession of midwifery were at poor levels (20, 21). Thus, the present study was conducted to investigate the effects of workshops and Telegram podcasts on midwifery students' knowledge and educational performance regarding legal and religious issues of donor egg recipients.

Materials and Methods

This two-group quasi-experimental study was conducted after obtaining permission from the Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran. Sampling was started with submitting a letter of introduction to Islamic Azad University of Mashhad and Mashhad School of Nursing and Midwifery. The sample size was calculated based on the study by Ahmadijoubary et al. (2013) (12) in which the workshop method was employed, and then the final sample size was determined by the comparison of two means formula before and after sample size determination using the study by MirRafiei et al. (2014) (21, 22), in which the podcast method was used. Considering 90% power and 0.05 Type-I error, the sample size was calculated to be 24 participants. Considering 20% sample attrition, the sample size for each group was considered 30. The study population included the eligible undergraduate midwifery students in semesters 7 and 8 at Islamic Azad University of Mashhad and undergraduate midwifery students in semesters 1, 3, and 5 at Mashhad School of Nursing and Midwifery. The participants were assigned to two groups through simple random allocation (n=30 participants in each group).

The inclusion criteria were consent to participate in the study, passing a gynecological disease, midwifery, infertility, ethics, and regulations in gynecology

courses, not experiencing any adverse events during the past six months, and having a mobile phone with the capability of installing MP3 format software (in the podcast group). The exclusion criteria were concurrent participation in training courses on legal and religious issues of egg donation, lack of participation in tests on knowledge and performance after the intervention, being absent for more than one hour in the workshop sessions, and lack of response to at least two scenarios posted on the social network (the podcast group). During the study, six individuals were excluded from the workshop group due to lack of participation in the workshop sessions and the second post-test and six participants were excluded from the podcast group because of failure to participating in the second post-test.

After introduction and a description of the objectives of the study in two briefing sessions by the researcher, the participants' informed consent was obtained. Then, the subject selection form was given to the students on the pre-test day. To evaluate knowledge and educational performance regarding legal and religious issues associated with egg donation, a self-designed knowledge measurement questionnaire and the objective structured clinical examination were utilized.

The knowledge measurement questionnaire included 20 multiple-choice items on legal and religious issues of egg donation and the ethical considerations of this method. Each item had one correct answer, which was scored 1, and it was scored zero if the answer to each item was incorrect. The minimum and maximum possible scores were 0 and 20, respectively. Face and content validity of the scale were established. Besides, the reliability of the test was calculated via measuring difficulty level and discriminant index, and test-retest reliability of the questionnaire indicated the relatively good quality of the multiple-choice items ($r=0.72$, $P=0.04$).

The objective structured clinical examination consisted of four stations. Station No. 1 included history of infertility and suggestion of appropriate solutions to clients

in the selection of assisted reproductive methods; station No. 2 was about legal issues; station No. 3 pertained to legal issues and rights of children born through assisted reproductive methods; and station No. 4 consisted of four-principle medical ethics for egg donation. The minimum and the maximum possible scores for each station were zero and two, respectively, that is, the minimum total score was zero and the maximum one was equal to 138. The total time spent on the objective structured clinical examination for each person was 20 minutes (five minutes for each station). The themes in the stations were determined based on the educational goals. The observation checklist was also designed by a group of professors, and its face and content validity were confirmed. The reliability of this questionnaire was measured by calculating internal consistency through Cronbach's alpha method, which was equal to $\alpha=0.74, 0.7, 0.81,$ and 0.93 for stations 1, 2, 3, and 4, respectively.

Training was started from the day following the pre-test. The educational content was the same for both groups. In the workshop group, the educational materials including PowerPoint lectures lasting for a total of 6-8 hours (three 2-hour sessions from 10 am to 6 pm) were presented at Mashhad School of Nursing and Midwifery by the author and with the presence of the study supervisor and specialized consultants, and then the study subjects discussed the given scenarios in groups. In the podcast group, three mp3 format audio files, each lasting for 25 minutes, were presented to the study subjects on three consecutive days based on a specific schedule via creating a Telegram group, and then the forwarded scenarios were discussed at a specified time by the

study subjects. Similar to pre-test, the post-test was administered to both groups two weeks after the training sessions.

After collecting the data, they were analyzed using SPSS, version 16. Initially, the normality of the data was investigated using the Kolmogorov-Smirnov test. The characteristics of the study subjects were also examined using independent t-test and Chi-square test. To compare the mean scores of knowledge and educational performance before training and two weeks after the intervention in the workshop and podcast groups, paired t-test was employed. Moreover, independent t-test was performed to compare the means between the two study groups after the intervention. P-values less than 0.05 were considered statistically significant.

Results

The mean ages of the workshop and podcast groups were 24.03 ± 5.02 and 26.29 ± 6.25 years, respectively. The mean grade point averages (GPAs) in the previous semester in the workshop and podcast groups were 15.31 ± 3.15 and 15.53 ± 3.28 , respectively. The majority of the participants in the workshop (74.1%, $n=20$) and podcast (57.1%, $n=16$) groups were unmarried. Additionally, most of the subjects in the workshop (92.6%, $n=25$) and podcast (75%, $n=21$) groups were undergraduate students. Based on the results of the independent t-test and Chi-square test, both groups were homogenous in terms of demographic characteristics including age, GPA, and marital status (Table 1).

Table 1. Comparison of mean and standard deviations of age and grade point average in the previous semester in the workshop and podcast groups

	Workshop group	Podcast group	Statistical test
	Mean±standard deviation	Mean±standard deviation	P-value
Age (year)	24.03±5.02	26.29±6.25	t-test=-1.464 P=0.149
Grade point average (score)	15.31±3.15	15.53±3.28	t-test=-0.255 P=0.800

The mean score of knowledge about legal and

religious issues associated with egg donation

before and two weeks after the intervention did not show any statistically significant differences

between the two groups ($P=0.157$ and $P=0.126$, respectively).

Table 2. Comparison of mean and standard deviation of knowledge scores before and after the intervention in the workshop and podcast groups

	Workshop group	Podcast group	Statistical test
	Mean±standard deviation	Mean±standard deviation	P-value
Knowledge score before the intervention	8.85±2.28	8.06±1.89	t-test=1.425 P=0.157
Knowledge score after the intervention	10.14±2.58	11.12±2.23	t-test=-1.552 P=0.126
Difference in knowledge score before and after the intervention	0.888±2.18	3.06±3.14	t-test=-3.016 P=0.004
Intragroup test	Paired t-test=-2.431 P=0.022	Paired t-test=-5.433 P=0.001	

However, the difference in the mean scores of knowledge pre- and post-intervention in both workshop and podcast groups was statistically significant ($P=0.004$); this difference was greater in the podcast group. The paired t-test results revealed that the mean scores of knowledge after the intervention were significantly higher than those before the intervention in both workshop and podcast groups (Table 2).

The mean scores of performance concerning legal and religious issues associated with egg

donation did not show any statistically significant differences between the workshop and podcast groups before the intervention ($P=0.060$). Nevertheless, a statistically significant difference was observed in this respect two weeks' post-intervention ($P=0.024$). For intragroup comparison, the paired t-test results suggested that the mean scores of performance after the intervention were significantly higher than those before the intervention in both workshop and podcast groups (Table 3).

Table 3. Comparison of mean and standard deviation of educational performance scores before and after the intervention in the workshop and podcast groups

	Workshop group	Podcast group	Statistical test
	Mean±standard deviation	Mean±standard deviation	P-value
Educational performance score before the intervention	49.66±19.76	38.06±25.42	t-test=1.919 P=0.060
Educational performance score after the intervention	75.59±21.94	61.45±24.25	t-test=2.315 P=0.024
Difference in educational performance score before and after the intervention	27.55±24.63	30.35±20.11	t-test=-0.476 P=0.636
Intragroup test	Paired t-test=-5.102 P=0.001	Paired t-test=-4.629 P=0.001	

Discussion

In this study, the mean scores of knowledge about legal and religious issues associated with egg donation were not significantly different between the workshop and podcast groups pre- and two weeks' post-intervention. However, the changes in knowledge scores after the intervention compared to those before the intervention showed a significant difference between the

two study groups, that is, the podcast group obtained higher scores than the workshop group. In the study by MirRafiei et al. (2013), the results revealed increased mean scores of knowledge among midwives two months after teaching the rules and regulations of the profession of midwifery in podcast group (21, 22). Moreover, in the study by Abate et al. (2012), a statistically significant difference

was reported in the mean scores of awareness among nursing students in a group receiving segmented podcasts compared to unsegmented podcasts and lectures (18, 19).

In another investigation conducted on "comparison of the impact of web-based, simulated, and traditional training on the levels of knowledge and skill in managing postpartum hemorrhage among midwifery students", Kordi et al. (2014) found that the three study groups did not show any significant differences in terms of the mean scores of knowledge about managing postpartum hemorrhage before the intervention, one week after the intervention, and one month after the intervention. However, the increase in knowledge was higher in web-based training compared to the other two groups, although such a rise was not significant (22, 23). In the studies similar to the present investigation, post-intervention knowledge scores in podcast groups showed statistically significant differences. However, the results obtained in the study by Ahmadijouybary et al. (2013) were not in line with the present findings. In the study by Ahmadijouybary et al. (2013), the mean score of awareness after lecture-based training among general practitioners was equal to 19.13 ± 3.18 and it was 20.85 ± 3.57 employing the workshop method. It should be noted that the workshop training method had a stronger effect on increasing awareness among general practitioners than the lecturer-based one (12). This discrepancy can be attributed to the lack of interaction in the lecture-based methods. In the present study, both workshop and Telegram with podcast methods were student-centered; therefore, learning was more effective.

In the present study, both methods of training through workshops and Telegram podcasts had impacts on educational performance of midwifery students participating in the training program associated with legal and religious issues of egg donation. In the study by Baghcheghi et al. (2011), the mean scores of communication skills were significantly different after training in lecture (85.56 ± 13.91) and discussion (99.33 ± 14.01) groups (23, 25), which was consistent with the results of the present study. In another study by Mohammadi

et al. (2003) aimed at investigating "the effect of education on knowledge, attitudes, and practice of nursing and midwifery instructors at Tabriz University of Medical Sciences in the domain of effective clinical education behaviors", the results showed no significant differences between the mean scores of practice before training (181.80 ± 18.80) and after training (186.36 ± 19.86) among the instructors teaching at Tabriz University of Medical Sciences and receiving training through group discussion and teamwork (24, 26). The reason for this discrepancy could be the difference in research populations since the statistical population examined in the study by Mohammadi et al. was a group of nursing and midwifery instructors and the population in the present study was a group of midwifery students. It should be borne in mind that the motivation and perspective of instructors towards learning are different from those of students. Further, the instructors evaluated their performance well before and after training sessions; thus, training could not significantly improve the instructors' performance given their high evaluation of their own practices.

One of the strengths of the present study was comparing the effects of two educational methods on knowledge and educational performance, as well as investigating legal and religious issues among donor egg recipients through the objective structured clinical examination. Among the limitations of this study was lack of long-term follow-up of the durability of the effects of the workshop and podcast interventions. Future studies are recommended to compare podcast method in conjunction with other multimedia.

Conclusion

Podcasts could increase the level of knowledge among the study subjects, and educational performance improved in the same ratio using both methods.

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Conflicts of interest

None declared.

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