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Comparison of the effect of two training methods (webinar and group discussion) on improving the attitude and performance of health workers in providing counseling with fertility promotion approach

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Abstract:

INTRODUCTION: Due to the significant decrease in fertility in recent decades and the important role of health workers and health-care providers in providing healthy reproductive counseling, their training is necessary using effective educational methods. Webinar and group discussion (GD) are effective in this regard. This study was conducted to determine the most effective method and with the aim of comparing the effect of two training methods (webinar and GD) on the attitude and performance of health workers in providing counseling with fertility promotion approach in comprehensive health centers in Mashhad.

METHODS: In this randomized trial study with a control group, 108 health workers working in health centers no. 2–3 and 5 of Mashhad entered the study and were randomly divided into three groups of training by webinar, GD, and control. Intervention groups received healthy fertility counseling skills in three training sessions. Research tools were demographic information questionnaires, fertility attitudes, and performance measurement checklists for fertility counseling. The questionnaires were completed in three groups at the beginning and after the completion of the interventions. Data analysis was performed by Chi-square test and one-way analysis of variance using SPSS software version 16.

RESULTS: The analysis of variance test showed that before the intervention, there was no statistically significant difference between the three groups in terms of average scores of fertility attitude and performance scores of fertility counseling. After the interventions, the difference between the fertility attitude scores ($P < 0.001$) and the performance scores of fertility counseling ($P < 0.001$) was significant in the three groups. There was no significant relationship between demographic characteristics and attitude and performance.

CONCLUSION: Teaching by webinar and GD promotes the attitude and performance of health workers in providing counseling with a fertility promotion approach. Therefore, it is recommended to use new educational methods such as webinar and GD to promote childbearing counseling, which has been emphasized in the country's population policies. Since the mean score difference for the webinar training method was the highest due to the mean scores, this method could be more effective than the GD method.

Keywords:

Attitude, counseling, fertility, group discussion, performance, promotion, webinar

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Introduction

Policy-making and planning in the field of reproductive health requires a comprehensive and in-depth study of individual reproductive behaviors. Fertility is important not only medically and hygienically but also is one of the most important components of population change and development in any country^[1] and is of special cultural, social, economic, political, and religious importance.^[1-3] Human development is one of the important pillars of sustainable development of societies, which has a special place in the discussion of reproductive health.^[4] Over the past 30 years, many factors have affected fertility in the country, including education and health policies, improving the health-care system, increasing the cost of raising children, developing the level of education,^[5] economic problems, and increasing the age of marriage.^[2] Due to the sharp decline in fertility in recent years, since the beginning of 2010, government policies regarding the family planning program and the orientation of the country's officials and experts in the field of fertility have changed.^[6,7] In recent years, along with the change in population policies in the country, measures have been taken to increase fertility. However, staff have not received the necessary training to provide family planning counseling with the approach of increasing fertility. In writing the policies of the Family and School Population Health Office, in order to improve the overall fertility rate to reproductive health and childbearing, he emphasized the training of personnel on providing reproductive health services, improving the quality of counseling services, reviewing indicators of fertility health programs, and improving existing educational content.^[8] One of the basic strategies to change the attitude toward fertility in most people in the society is to receive information and education, which in recent years has had a clear effect on the fertility behavior of couples.^[1] In the past, the role of health-care personnel in the fertility discourse of lessons was to provide training and counseling to clients in order to accept, select, and use methods of contraception. Currently, the role of many employees in disseminating attitudes and providing counseling and family planning services has not changed significantly, and some of them do not have the necessary attitude to align with the country's new population policies. This has led to conflicting messages about fertility in society. These findings indicate the need to train and change the attitude of employees in providing advice in order to promote fertility in society.^[1] The basic pillars for improving the quality and quantity of health-care services are improving attitudes and improving the scientific level and skills of health workers. Correction of attitudes leads to improved performance, and by increasing the scientific and skill level of employees, they will monitor their activities.^[9] It is possible to solve

many fertility problems through careful counseling, and by interfering with the principles of information, education, and communication in counseling, the quality of counseling improves significantly.^[10] Due to the importance of counseling in regulating fertility, the counselor has a serious responsibility and must have received the necessary training and skills before the counseling process.^[1] Health-care professionals play a key role in promoting family and community health by providing the necessary advice. Health-care staff is the best counselors in population control and implementation of reproductive adjustment programs, so it is important to change their awareness, attitude, and performance through the use of active and effective teaching methods.^[1] The use of active and modern training methods will help employees to play their role more effectively.^[11] Among the teaching methods, group discussion (GD) is an effective and common method for changing the attitude of health workers. In this method, all participants defend their thoughts and attitudes while discussing the reasons based on facts, concepts, and scientific principles.^[12] On the other hand, with the advancement of science and technology, new technologies have rapidly replaced the old technologies and provided powerful tools for users.^[13] The use of these technologies in the field of health is considered with the aim of achieving three outcomes, including learning the right information, changing attitudes related to health, and creating new behaviors consistent with health.^[14] Web-based learning is one of the new teaching methods that are able to increase critical thinking and decision-making ability of learners and improve their psychomotor skills and performance.^[15] Web-based learning allows learners to focus on the goals and content of the training they need.^[8]

Meanwhile, training through webinar software has recently received special attention. A seminar webinar is a lecture or workshop provided by the Internet, where it is possible for the teacher and learners to communicate both audio and video and send text messages. In addition, each participant can communicate with other participants via the Internet. In this way, the instructor can give the learners the opportunity to hold a conference and give a speech.^[16] Given the current need of our society to promote healthy fertility and increase the number of learners and lack of resources, web-based education is a low-cost educational method. Despite the rapid expansion of web-based courses, the available evidence on the effectiveness of learning experiences with this method is limited and sometimes contradictory.^[17] A review of studies shows that there is currently no training program to improve the skills of health-care counselors to increase fertility promotion. Considering the role of pattern and guidance of health workers in the field of fertility, it is necessary to justify health workers in

this regard and correct their attitude and performance. There are few programs that enable employees to play their expected role in the current state of society and to promote the country's population policies. It is necessary to use effective and efficient training methods that enable the extensive training of skills required by employees as soon as possible. As a result, the aim of this study was to determine the effect of training method (GD and webinar) on the attitude and performance of health staff working in health centers in Mashhad regarding counseling with fertility promotion approach.

Methods

This study was a randomized pretest and posttest test that was performed as a field trial with the general goal of "comparing the effect of two training methods (webinar and GD) on the attitude and performance of health workers regarding counseling with fertility promotion approach." It was done in Mashhad in 2015. Initially, the necessary permits were obtained from the university's ethics committee and the health department. The researcher then referred to comprehensive health centers for sampling. The selection of health-care centers was two-stage and. Research units were selected randomly. Three health center numbers 2, 3, and 5 were randomly selected from five health centers in Mashhad. Among the health centers covered by them, 18 health centers and 23 community health centers and health centers were selected. Initially, all those wishing to participate in the research were invited to a call. A total of 108 midwives and health-care providers who had the basic criteria for participating in the study entered the study. The participants were randomly divided into three groups using a table of random numbers (webinar, GD, and control). Midwives and health-care workers working in community health centers affiliated with Mashhad University of Medical Sciences had the criteria to enter the study, forming the research community. The criteria for entering the study were included: midwife with a degree in midwifery (associate, bachelor, or master) or a degree in family health or public health (bachelor's or master's), employees in the units of maternal, children and family planning, counseling or health-care plan (polyvalent) selected health centers, at least 6 months of work experience in health-care centers, written conscious consent to participate in research, lack of experience in counseling classes and workshops related to fertility promotion approach in at least the last 6 months, inexperience of major stressors during the 6 months before the intervention, ability to use computer and the Internet, Internet access, people with laptops, computers, or smartphones.

The criteria for leaving the study were as follows: reluctance to continue research, absence from at least

one workshop session, and absence from work during the evaluation period of participants' performance for reasons such as leave.

The researcher did not find a study in which the dependent variables were similar to the present study. As a result, the sample size in the present study was calculated based on a preliminary study of 30 research units (with 95% confidence level and 80% test power and using the mean comparison formula). At least 32 samples were estimated in each group. Taking into account the 10% sample fall, 36 people entered each group. Therefore, 108 midwives and health-care workers working in the health center and community health centers that had the characteristics of the research unit formed the research sample. Sample shedding in GD was one person. The tools used to collect information in this study were the following questionnaires: "Demographic Information" questionnaire, checklist "Observing the Performance of Health-care Employees on Counseling with Fertility Promotion Approach," and "Measuring Attitudes toward Fertility" questionnaire.

The fertility attitude assessment questionnaire has 47 items. This questionnaire was prepared based on the qualitative study of Khodiouzadeh *et al.* (2013). Its scores were scored on a five-point Likert scale (I strongly disagree: 1, I disagree = 2, I have no opinion = 3, I agree = 4, and I strongly agree = 5). This questionnaire was completed in two stages (before and after the intervention) by the research units. The reliability of this questionnaire was confirmed by Cronbach's alpha coefficient equivalent to 0.90.

The checklist is about the performance of health workers in providing counseling with a fertility promotion approach. The checklist was compiled from a list of counselors from the Family Planning Counseling Book, compiled by the Ministry of Health and Medical Education and the United Nations Population Fund. This checklist was used to measure the performance of health-care staff in providing counseling with a fertility promotion approach. The checklist had 8 sections and 48 questions. The first section has five questions about the consultant's nonverbal communication. The second part has three questions about the counselor's verbal communication. The third section has six questions about how to follow the steps and content of fertility counseling. The fourth section has 15 questions about the review of clients' requests, problems, and goals of fertility counseling. Section 5 has five questions about fertility dialog and interaction. Section 6 has three questions about how to solve problems. Section 7 has eight questions about managing a counseling session. Section 8 has three questions about evaluating a counseling session. The questions were scored as no:

0, to some extent = 1 and yes = 2. This checklist was completed by the researcher in two stages (before and after the intervention). Content validity was used to validate the performance checklist of health workers regarding counseling with fertility promotion approach. The Lawshe formula was used to calculate the content validity ratio, and then, the final tool was corrected and used. For the reliability of this checklist, by determining the internal similarity on the answers provided by 30 research units, Cronbach's alpha method was calculated and the reliability was confirmed with $\alpha = 0.95$.

To collect data, the participating groups included two intervention groups (receiver of webinar training and GD) and one control group (no training). The questionnaires were completed once before the start of the intervention and at the beginning of the study and once 2 weeks after the end of the training sessions by all participants. The duration of the training sessions in the intervention groups was 6 h. After every 90 min of training, the content was summarized and rested. Teaching was based on the lesson plan using lecturing methods, GD, role-playing, and question and answer. In this study, in the intervention groups, the training was prepared based on the lesson plan and was presented with the aim of improving attitudes and improving performance. Educational content was prepared based on the protocol of the Ministry of Health and Medical Education and books and scientific resources.^[1,18-21] Finally, the collected information was encoded and entered into SPSS 16 (IBM, SPSS Inc, Chicago, Illinois, USA) editing software. Due to the normal distribution of quantitative data, one-way analysis of variance tests and Toki testing were used.

Results

Data were analyzed on 107 study participants in three groups (GD, webinar, and control). At the beginning of the study, 108 people (36 people in each group) entered the study, but eventually 107 people remained, and one person in the GD was excluded from the study due to incompleteness of the questionnaire. At the beginning of the study, the normality of the variables was examined using the Kolmogorov-Smirnov test. The results of the normality study showed that all variables were normal and were the same in all three groups using one-way analysis of variance. A summary of the demographic characteristics of the participants is given in Table 1.

The results of one-way analysis of variance showed that at the beginning of the study and before the interventions, there was no significant statistical difference between the mean scores of fertility attitudes in the three groups ($P = 0.05$). Two weeks after the intervention, the difference in attitude scores in the three

groups was significant ($P < 0.001$) [Table 2]. The Toki test showed that this difference was significant between the control group with the GD ($P < 0.001$), the control group with the webinar ($P < 0.001$), and the GD with the webinar ($P = 0.002$). The increase in attitude score in the webinar group was significantly higher than in the GD [Table 2].

Furthermore, the results of one-way analysis of variance test showed that at the beginning of the study, there was no significant statistical difference between the three groups in terms of average performance scores ($P = 0.1$). Two weeks after the start of the study, the mean performance scores in the two intervention groups were significantly higher than the control group ($P < 0.001$). With the Toki test, this difference was between the mean scores of the control and webinar groups ($P < 0.001$) and the control and GD groups ($P < 0.001$). In addition, the results of one-way analysis of variance showed that there was a statistically significant difference between the three groups in terms of the mean change in performance scores (difference in performance score before and 2 weeks after the intervention). The Toki test showed that this difference between the control and GD groups ($P < 0.001$) and the control and webinar groups ($P < 0.001$) was significant [Table 3]. According to the results, there was no significant relationship between demographic characteristics including field of study, level of education, age, and work experience of service providers with their attitude and performance.

Discussion

The findings of the present study showed that the average changes in fertility attitude scores in the webinar training group and the GD method training group increased significantly after the training compared to the control group. Furthermore, a comparison between the mean score difference at the beginning and end of the intervention showed that the increase in attitude score in the webinar group was significantly higher than the GD. This shows that webinar training and GD have had a significant impact on increasing the attitude toward fertility and the highest increase has been related to the webinar group. In this regard, the results of studies of Ramezani *et al.*, Shojaeizadeh, Jalilian *et al.*, and Ahmadi Tabatabai *et al.* are also confirmatory.^[21-25] In the study of Ramezani *et al.* (2012) entitled "The effect of premarital education and counseling program on couples' awareness and attitude toward reproductive health," a significant increase was observed in the average score of couple's attitude toward reproductive health after intervention.^[25] In Shojaeizadeh's study, health education through lecturing, GD, and Q and A had a significant effect on the average score of Shiraz physicians' assistants on AIDS.^[26] A study by Ahmadi Tabatabai *et al.* (2012)

Table 1: Demographic characteristics of participants

Variable	Group				Test result
	Group discussion (n=35)	Webinar (n=36)	Control (n=36)	Total (n=107)	
Age (year), mean±SD	34.4±8.4	35.0±7.5	32.9±5.4	34.1±7.1	F=0.08, P=0.44
Work experience (month), mean±SD	111.2±96.6	120.6±96.4	88.5±65.8	106.6±87.4	F=1.26, P=0.28
Number of children, mean±SD	1.1±0.9	1.6±1.6	0.9±0.8	1.2±1.2	F=2.38, P=0.10
Field of study, n (%)					
Midwifery	23 (65.7)	23 (63.9)	16 (44.4)	62 (57.9)	$\chi^2=7.1, P=0.12,$ Exact=012
Family health	3 (8.6)	0 (0)	4 (11.1)	7 (6.5)	
General hygiene	9 (25.7)	13 (36.1)	16 (44.4)	38 (35.5)	

SD=Standard deviation

Table 2: Average attitude scores in the research units participating in the research (group discussion, webinar, and control)

Attitude scores	Group, mean±SD			Test result
	Group discussion (n=35)	Webinar (n=36)	Control (n=36)	
Beginning of the study	165.8±19.3	161.0±23.2	172.4±15.2	F=3.0, P=0.05
Two weeks after the intervention	192.0±16.0	196.5±14.1	176.1±16.1	F=17.2, P<0.001
Average difference between the beginning and 2 weeks after the intervention	26.2±10.7	35.4±15.7	3.6±2.6	F=77.6, P<0.001
t-test, P	14.4, <0.001	13.4, <0.001	8.3, <0.001	

SD=Standard deviation

Table 3: Average performance scores of research units in intervention and control groups

Performance scores	Group, mean±SD			Test result
	Group discussion (n=36)	Webinar (n=36)	Control (n=36)	
Beginning of the study	22.4±14.4	23.3±12.4	17.9±10.1	F=1.9, P=0.1
Two weeks after the intervention	62.8±8.4	63.9±6.8	26.3±10.1	F=220.1, P<0.001
Average difference between the beginning and 2 weeks after the intervention	40.4±11.2	40.5±10.7	8.4±7.0	F=126.7, P<0.001
t-test, P	21.2, <0.001	13.4, <0.001	13.4, <0.001	

SD=Standard deviation

entitled “The effect of training on physical activity on awareness, attitude and performance of health workers in Kerman province” was conducted. The results showed that teaching in different ways (decorating the workplace with slogans related to the subject of education (physical activity), giving lectures and PowerPoint, educational booklet, sending messages via SMS and office automation system) significantly increased the average scores of people’s attitudes.^[22] The reason for the increase in attitude in these studies can be considered in using different educational methods and establishing more and more appropriate communication and interaction with people and expressing new concepts in the framework of educational intervention. Most studies confirm that the use of a logical message transmission system in an educational program to promote behavior and attitude is recommended.^[27] In this regard, some studies conducted are not consistent with the results of the present study, including the study of Meshki *et al.*^[24] In a study by Meshki *et al.*, the results showed that after the intervention, the scores of the emotional field (attitude) between multimedia closed groups, GD, and control do not differ significantly.^[24] Perhaps, the reason for this difference with the present study is due to the nature

of the issue because the attitude toward nutrition is an individual attitude and is related to the individual’s economy, but in this study, the attitude toward fertility is a social attitude.

The findings of the present study also showed a significant increase in the average performance scores of employees in providing counseling with the approach of fertility promotion in the training group by webinar method and the training group by GD method after training. In this regard, the results of studies of Kordi *et al.* (2013), Shojaeizadeh (1997) are confirmatory.^[25,27] A study by Kordi *et al.* (2013) showed that the mean score of the postpartum hemorrhage skill performance test increased significantly 1 week and 1 month after training.^[28] In the study of Shojaeizadeh (1997), health education in the prevention of AIDS through lecturing, GD, and questions and answers caused a significant increase in the average score of the performance of Shiraz physicians’ assistants.^[27] In a study, Emami *et al.* examined the effect of training on physical activity on the awareness, attitude, and behavior of health liaisons. The results showed that at the beginning of the study and 4 weeks after the end of the training program, which

was in the form of lectures, GDs, questions and answers, and educational brochures, the average performance scores on physical activity in the intervention group were statistically significant. However, in the control group, in terms of performance scores on physical activity, there was no significant statistical difference at the beginning of the study and 4 weeks after the end of the training program. There are inconsistent studies with the findings of the present study, including the study of Ahmadi Tabatabai *et al.* (2012).^[22] In the study of Ahmadi Tabatabai *et al.* (2012) with the aim of investigating the effect of training on physical activity on awareness, attitude, and performance of health workers in Kerman province, the results showed that the average performance (amount of physical activity) decreased slightly after training intervention. In justifying this issue, it can be said that a study group and not having a control group to compare with the intervention group and the lack of sufficient facilities and appropriate to the work environment can cause differences in results.

Conclusion

These results show that the use of GD and webinar methods, which are among the active teaching methods and during which people think, interact, and gain experience in promoting healthy fertility counseling, improves their performance in providing healthy reproductive counseling to their clients.

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Conflicts of interest

There are no conflicts of interest.

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