



## ORIGINAL ARTICLE

## Survey on the effect of two education methods (face to face and distance) on the self-care skill of Behvarz

## مسح حول طریقتین تدریبتین (وجهاً لوجه و عن بعد) علی مهارت الرعاية الذاتية للعاملین الصحیین

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**Background:** With increase in the number of patients with chronic illnesses, long-term health care systems are experiencing significant problems in providing these services. Therefore, in order to organize these patients and facilitate the work, it is suggested that some care be provided by the individuals themselves. The present study aimed to investigate the effect of face to face and distance education on self-care.

**Methods:** Data were collected through a researcher-made questionnaire. The statistical population of the study consisted of Bahvarzes of two cities: Khaf and Sarakhs. According to population size and based on Cochran formula, 45 Bahvarzes were randomly selected from khaf and Sarakh health centers as the statistical sample. The intervention of face-to-face training in Sarakhs health center and intervention of distance education in Khaf Health Center were used. Data was analyzed through SPSS 24 software.

**Results:** Based on the results of paired t-test, it was found that face to face training intervention was effective on self-care of non-communicable diseases in Behvarz of Sarakhs city (p-value = 0.001). But self-care distance education intervention has not been effective on self-care of non-communicable diseases in Behvarz of khaf city (p-value=0.1). Also the results of comparing the mean of two methods of face to face and distance training showed that there was a significant difference between the scores mean of Behvarz in the two methods (p-value = 0.001) and the face to face training intervention was more effective than distance training intervention. **Conclusion:** Self-care face to face training of non-communicable diseases in Behvarz is more effective than distance training.

**Keywords:** Self-care, Face-to-face training, Distance learning

**الخلفية والهدف:** مع زيادة عدد المرضى المصابين بأمراض مزمنة ، واجهت أنظمة تقديم الرعاية الصحية على المدى الطويل العديد من المشاكل في تقديم خدمات الرعاية لهؤلاء الأشخاص. لذلك ، من أجل تنظيم هؤلاء المرضى وتسهيل العمل ، يوصى ببعض العناية من قبل الأفراد أنفسهم. كان الهدف من هذه الدراسة هو تحديد تأثير التعليم وجهاً لوجه وجهاً لوجه على الرعاية الذاتية للأمراض غير المعدية في العاملين الصحیین.

**الطريقة:** تم جمع البيانات من خلال استبيان. وشمل المجتمع الإحصائي العاملين الصحیین في مركزي خاف وسرخس الصحیین. حسب معادلة كوكران ، تم اختيار 45 عاملاً صحياً من كل من مركزي الخاف والسرخس عشوائياً كعينة إحصائية. تم استخدام التدخل التدريبي على الرعاية الذاتية في مركز سرخس الصحي وتم استخدام التدريب على الرعاية الذاتية في مركز خاف الصحي. تم إجراء تحليل البيانات باستخدام برنامج SPSS الإصدار 24.

**النتائج:** بناءً على نتائج اختبار t المزدوج ، وجد أن طريقة التدريب وجهاً لوجه كانت فعالة في الرعاية الذاتية للأمراض غير المعدية في العاملين الصحیین في سرخس (p = 0.001) ، ولكن طريقة التدريب عن بعد كان فعالاً في الرعاية الذاتية للأمراض غير المعدية كانت غير فعالة في العاملين الصحیین في مدينة خاف (p = 0.1). كما أظهرت نتائج مقارنة متوسطة طريقتي التعليم وجهاً لوجه والتعليم عن بعد أن هناك فرقاً معنوياً بين متوسط درجات العاملين الصحیین في طريقتي التعليم وجهاً لوجه والتعليم عن بعد (p = 0.001) وكان التدخل التعليمي وجهاً لوجه أكثر فعالية من التعليم عن بعد.

**الخلاصة:** يعتبر تعليم الرعاية الذاتية للأمراض غير المعدية لدى العاملين الصحیین بطريقة وجهاً لوجه أكثر فعالية من التدريب الشخصي.

**الكلمات المفتاحية:** الرعاية الذاتية ، التدريب وجهاً لوجه ، التعلم عن بعد

## بررسی تأثیر دو روش آموزش (حضورى و غیر حضورى) بر مهارت خودمراقبتى بهورزان

## بیلته ورکروں میں بیماریوں سے اپنی حفاظت کرنے میں کے کریش کورس کی تاثیر

**زمینه و هدف:** با افزایش تعداد مبتلایان به بیماری‌های مزمن، سیستم‌های ارائه‌دهنده خدمات بهداشتی-درمانی در بلندمدت دچار مشکلات عدیده‌ای در زمینه ارائه خدمات مراقبتی به این افراد شده‌اند. لذا به منظور سازماندهی این بیماران و تسهیل کارها توصیه می‌شود که برخی مراقبت‌ها توسط خود افراد انجام گیرد. پژوهش حاضر با هدف تعیین تأثیر آموزش حضورى و غیر حضورى بر خودمراقبتى بیماری‌های غیر واگیر در بهورزان انجام گردید.

**روش:** اطلاعات از طریق پرسشنامه جمع‌آوری شد. جامعه آماری شامل بهورزان مراکز بهداشت شهرستان‌های خواف و سرخس بودند. بر اساس فرمول کوکران، 45 بهورز از هر یک از مراکز بهداشت خواف و سرخس به طور تصادفی به عنوان نمونه آماری انتخاب گردیدند. از مداخله آموزش حضورى خود مراقبتى در مرکز بهداشت سرخس و از آموزش غیر حضورى خودمراقبتى در مرکز بهداشت خواف استفاده شد. تجزیه و تحلیل داده‌ها با استفاده از نرم‌افزار SPSS نسخه 24 انجام شد.

**یافته‌ها:** بر اساس یافته‌های حاصل از آزمون تی زوجی مشخص گردید که روش آموزش حضورى بر خودمراقبتى بیماری‌های غیرواگیر در بهورزان شهرستان سرخس موثر بوده است (p = 0.001) اما روش آموزش غیرحضورى بر خود مراقبتى بیماری‌های غیرواگیر در بهورزان شهرستان خواف بی‌تأثیر بوده است (p=0/1)، همچنین نتایج آزمون مقایسه میانگین دو روش آموزش حضورى و غیر حضورى نشان داد که اختلاف معنادارى بین میانگین‌های نمرات بهورزان در دو روش آموزش حضورى و غیر حضورى وجود دارد (p = 0/001) و مداخله آموزش حضورى مؤثرتر از آموزش غیر حضورى بوده است.

**نتیجه‌گیری:** آموزش خود مراقبتى بیماری‌های غیر واگیر در بهورزان به شیوه حضورى مؤثرتر از شیوه آموزش غیرحضورى است.

**واژه های کلیدی:** خودمراقبتى، آموزش حضورى، آموزش غیرحضورى

**بیک گروئنڈ:** مزمن بیماریوں میں مبتلا ہونے والے مریضوں کی تعداد میں اضافہ ہونے کے ساتھ ساتھ طبی خدمات دینے والوں کو طرح طرح کی مشکلوں کا سامنا کرنا پڑتا ہے۔ اسی وجہ سے بیماروں کے صحیح اعداد و شمار حاصل کرنے اور میڈیکل خدمات پیش کرنے والوں کو بیماریوں سے بچنے کے لئے خود سے اپنی حفاظت کرنے کی تاکید کی جاتی ہے۔ یہ تحقیق بیلته ورکروں کے لئے اپنی حفاظت کرنے کے اقدامات کی تاثیر دیکھنے کے لئے کی گئی ہے۔

**روش:** تحقیق میں شریک افراد کو ایک سوالنامہ دیا گیا جس سے ڈیٹا کی جمع آوری ہوئی ، اس تحقیق میں شہر خواف اور سرخس کے بیلته ورکروں نے حصہ لیا۔ کوکران فارمولے کے مطابق ہر شہر سے پینتالیس بیلته ورکر کو تحقیق میں شامل کیا گیا تھا۔ سرخس کے طبی مراکز میں کام کرنے والے بیلته ورکروں کو کلاس میں اپنی حفاظت کرنے کے اقدامات سکھائے گئے جبکہ دوسرے گروپ یعنی خواف کے بیلته ورکر کو دوسرے طریقے سے یہ کورس کرایا گیا

ڈیٹا کا تجزیہ ایس پی ایس ایس چوبیس سے کیا گیا۔

**نتیجے:** اس تحقیق سے معلوم ہوتا ہے کہ سرخس کے بیلته ورکروں کو جو کورس کلاس میں پڑھایا گیا تھا وہ انہیں بیماریوں محفوظ رکھنے کے لئے موثر واقع ہوا۔ لیکن خواف میں بیلته ورکروں کو چونکہ کلاس میں نہیں پڑھایا گیا تھا اس لئے وہ اپنے آپ کو بیماریوں سے بچانے میں موثر اقدام نہیں کر سکے۔

**سفرارش:** اس تحقیق سے پتہ چلتا ہے کہ کلاس میں کرائے گئے کریش کورس دوسرے طریقوں کی نسبت مفید واقع ہوتے ہیں۔ لہذا اس روش پر عمل کا جائے۔

**کلیدی الفاظ:** خود سے حفاظت ، کلاس ، کریش کورس

## INTRODUCTION

Health is the most important factor in promoting and ensuring the survival of societies. Health relies on what people do for themselves rather than relying on doctors, nurses and health care providers. Today, unlike the past, human health is not compromised by not being aware of the disease and knowing how to treat it, but rather by the factors that humans have created themselves. Self-care is one of the important aspects of a healthy lifestyle and one of the health promoting behaviors (1). Self-care means conscious, acquired, and purposeful activities that people do in order to maintain their life and promote their health, in which people use their knowledge and skills to take care of their health responsibly (2). Self-care is the most important form of primary care in developed and developing countries (3). Education is an important part of the care plan. Learning self-care activities can lead a person to maintain health and well-being, increase their adaptability to their illness, increase their ability to care for themselves, and reduce the degree of patients' disability costs and medical costs (4).

Despite the many benefits of education against the low cost, this is often overlooked or neglected in health Centers (5). Studies have shown that implementing a self-care education program can improve the quality of life and health literacy of hypertensive patients, increase diabetics' awareness of diabetes, improve physical and mental health, and improve diet nutrition and physical activity (4), (5), (6). As science and technology advances, teaching and learning have also evolved. E-learning or distance is a new method that has many advantages over traditional or face to face education. Nowadays, teaching patients electronically in text, audio, and video has made the transfer of concepts and materials easier and more attractive (7). According to studies, technology has a positive effect on self-management and has positive consequences (8).

According to Narges et al. (2018), time, place, duration of interventions, individual characteristics, and use of new educational methods for some audiences can be helpful in reducing the risk factors for hypertension (9). Today, with the spread of chronic diseases and the increasing number of patients with these diseases, health care systems in the long run have many problems in providing care to these people. In this regard, many experts believe that in order to organize these patients and facilitate the work, care should be taken by the people themselves. (10). Behvarz are as one of the main groups of service providers in the health care team of the country that their level of awareness as the first officials providing health services is one of the factors affecting public health. Therefore, self-care training for them can play an effective role in implementing this important.

Therefore, self-care education of Behvarz should be the focus of attention of the authorities. The purpose of this study was to investigate the effect of face to face and distance training on self-care skills in non-communicable diseases in Behvarz.

## METHODS

This interventional study was performed as a quasi-experimental research. The statistical population of this

study was all Behvarz working in health centers of Sarakhs and Khaf cities. Due to the small number of health workers in Sarakhs city, the researcher inevitably used the Behvarz in Khaf city, since they were closest in terms of age and education, cultural level, economy, ratio of Shiite and Sunni population, share of agricultural and livestock jobs, and type of products and regional income. Climatic conditions and the possibility of the researcher communicating with Behvarz in Khaf city were due to communication with the health network officials of that city. According to the size of the community (160 persons) and based on Cochran formula, 45 Behvarz from each center were randomly selected as statistical sample. For the purpose of this study, face to face training in Sarakhs Health Center and distance training in Khaf Health Center were used. Data were collected using a self-reported researcher-made questionnaire twice before and 3 months after the training. It is noteworthy that the Behvarz working in the self-care training group (Sarakhs Health Center) did not have access to the multimedia CD. The questionnaire consisted of two parts. The first part of the questionnaire included general information about the respondents' age, gender, education, and BMI, and the second part consisted of 31 questions about self-care behaviors that were adjusted based on the Graded scale (never-always). The validity of the questionnaire was evaluated by experts as well as the convergent validity test using correlation of each question with hypothesized scale and all correlation coefficients were higher than 0.4. The reliability of the questionnaire was confirmed by Cronbach's alpha coefficient.

In order to analyze the data from descriptive statistics including mean and standard deviation and inferential statistics including Kolmogorov-Smirnov test to check the data normality, paired t-test and mean comparison test of two independent or nonparametric equivalents with SPSS software version 24 were used.

Criteria for inclusion in the present study were:

The Behvarz who had at least one year of service in the health center of Khaf and Sarakhs cities, currently serving, having a desire to participate in research.

Exclusion criteria were:

The person who was not present in more than 40% of training sessions and the person who was willing to continue participating in the research.

## RESULTS

Findings from demographic data showed that in the Sarakhs Health Center about 75% and in Khaf Health Center about 84% of the sample were women. At both Khaf and Sarakhs health centers, most of the sample members, approximately 44%, were in the age range of 35-44 years. At the Sarakhs Center, about 91 percent and at Khaf Center, about 55 percent, had a diploma. The mean scores of Behvarz before and after face to face and distance educational intervention are presented in Table 1.

After making sure that the data were normalized using Kolmogorov-Smirnov test, Table 2 presents the effectiveness of each of the face to face and distance training methods. In the face to face method, the p-value was less than 0.05, so it

**Table 1. Comparison of mean scores of Behvarz before and after face to face and distance educational intervention**

Average scores of Behvarz	Standard deviation± mean	
	Distance education (Khaf Health Center)	Face to face education (Sarakhs Health Center)
Before the training	3.23+_ 0.43	2.95+_0.47
After the training	3.23+_0.49	3.54+_0.56

**Table 2. Paired t-test results in face-to-face and distance learning**

Method of teaching	t-statistic	Degrees of freedom	P-value	confidence interval
Face to face (Sarakhs Health Center)	5.50	44	0.000	(0.37,0.81)
Distance (Khaf Health Center)	1.04	44	0.1	(-0.08,0.27)

**Table 3. Results of the mean test of equality of two communities (face to face and distance)**

Results of the mean test of equality of two communities			The results of the equality test of variances of two communities	
P-value	Degrees of freedom	t-statistic	P-value	Fisher statistics value
0.0001	88	2.94	0.33	0.94

can be concluded that the face to face training was effective. But in distance education method the p-value was more than 0.05, so it can be concluded that distance education was ineffective.

Table 3 presents the results of the comparison between the mean of two groups of face to face and distance education: As can be seen in Table 3, The P-value was less than 0.05 in the mean test of the two societies. Therefore, there was a significant difference between the mean scores of the Behvarz in the two methods of face to face and distance education. In other words, face to face training was more effective than distance training.

## DISCUSSION

The present study investigated the effect of face-to-face and distance education on self-care of non-communicable diseases in Behvarz working in health centers of Sarakhs and Khaf cities. After analyzing the data, it was found that face-to-face training intervention was effective on non-communicable self-care diseases in Behvarz, but distance-learning education intervention had no effect on non-communicable self-care diseases in Behvarz.

Also, face to face self-care education was more effective than distance self-care education. Each of the previous studies, which was or was not consistent with the results of this study, is presented below.

Among the research in line with the results of the present study, Ganji, Peyman, Misami Bonab and Ismaili (2017) showed that the implementation of self-care education program can improve the quality of life and health literacy of patients with hypertension. According to him, self-care

education increases awareness, changes lifestyle and improves patients' medication adherence. (4). In the study of Shams, Moradi and Zakir (2017) it was shown that self-care education increases the awareness of diabetics about diabetes issues, and improves physical and mental health. (5). Saeedpour et al. (2013) by examining the effect of self-care education on the quality of life of diabetic patients concluded that there is a significant difference in self-care scores between the control and intervention groups (11). Studies by Narjes et al. (9), Raisi et al. (6) and Danieli et al. (12) also showed that educational intervention is effective on self-care behaviors. In this study, it was found that face-to-face training has been effective on non-communicable self-care diseases in Behvarz.

Among the researches in the field of distance self-care training, Nouhi, Khandan and Mirzazadeh (2012) found in their research that electronic self-care training and follow-up intervention improve performance (13). Daryazadeh (2016) stated that self-care training for patients is necessary in order to make them more independent in self-care and with the main purpose of helping patients. Also, the e-learning system should train health workers and patients to provide educational content and to use more interactions (7). Baraz, Mohammadi and Boroumand (2006) concluded in their study that the effect of face-to-face and face-to-face self-care training on improving the quality of life and physical problems of hemodialysis patients are the same (14). Ali, Allen and William (2005) showed that there was no significant difference between the two methods of lecture teaching and computer training package (15). The findings of Casaza and Kikazu (2007) showed that students who

received training based on computer-based intervention had increased awareness, physical activity, self-care, and social support, and decreased meal rates, (16) which is not in line with the results of the present study because in the present study it was found that distance education has no effect on self-care of non-communicable diseases in Behvarz.

Today, the epidemic of non-communicable diseases accounts for 60% of all deaths worldwide. Non-communicable diseases are often chronic and disabling, and require specific training to survive, and it is important that the non-communicable patients require long-term care and supervision. Patient self-awareness is the first step in planning self-care that will often be influenced by the patient's personality and behavior (17). Therefore, according to the research results, it is suggested that the self-care face to face training method should be given priority. It is suggested to the officials of health centers to pay more attention to self-care education and related issues such as place of education, appropriate time, method of education, characteristics of educators and so on. In order to make the self-care courses more effective, it is recommended that the courses be carried out on a regular basis, since the evaluation of the performance of these courses is necessary for better planning and implementation.

Also, using a combination of face to face and distance teaching methods, for example major education through distance methods, and face to face training sessions to measure the level of learner learning and resolve questions and ambiguities is necessary. Other researchers suggested considering the impact of some demographic variables such as gender, age, education, etc. for future research, as these factors may influence people's willingness to use different methods of effective face to face and distance training. In the

present study, distance education has been a multimedia compact disc, it is suggested to use other distance and online methods such as social networking in future research. It is also suggested that in future research regarding the questionnaire, the level of satisfaction with each of the educational methods and the reason for their dissatisfaction with distance methods will be analyzed in order to analyze the strengths and weaknesses of each method in to be considered.

Due to the fact that the information of the present study had to be collected from Sarakhs and Khaf health centers, in order to coordinate between Behvarz to participate in face-to-face meetings or test the distance learning course and also to coordinate with network managers to hold face-to-face courses and absentee exams, the data collection process was slow, which are among the limitations of this study.

#### Ethical considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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**Conflict of Interest:** There is no conflict of interest.

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