

The Effect of Training and Consultancy on the Knowledge Level and Health Belief regarding the Cervical Cancer Screenings, and Participation in Screenings

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Abstract

Background/Aim: The purpose of this study was to examine the effect of training and consultancy on women's knowledge level and health belief regarding the cervical cancer screenings and their participation in screenings. **Materials and Methods:** The study is designed as pre-experiment with one group pretest-posttest. The sample group of the study consists of 66 women. The data were collected between March and June 2011. "Personal Information Form", "Information Form of Cervical Cancer Screenings", "Health Belief Model Scale for Cervical Cancer and Pap Smear Test", and "Assessment Form Concerning Taking the Pap Smear Test" were used to collect the data. **Results:** It was determined that at the end of all trainings, 45.5% of women took the relevant test. Among those who participated in the Pap Smear screening, the training and consultancy had an effect of 100%, booklets 100% and telephone calls 25%. The training and consultancy increased the perception of "benefit and motivation" regarding the Pap Smear test and Pap Smear decreased the perception of "barriers". Regarding the cervical cancer, it decreased the perception of "regard/seriousness", "susceptibility" and "health motivation". **Conclusions:** It was concluded that training and consultancy change the health beliefs regarding cervical cancer screenings, increase the participation in screenings and consequently, contribute to early diagnosis.

Keywords

Consultancy, Training, Cervical Cancer, Health Belief, Screening

1. Introduction

Following the breast cancer and rectum cancer, the cervical cancer is ranked as the 3rd

most frequent cancer among all cancer types in women around the world. According to the GLOBOCAN study that was conducted by the International Agency for Research on Cancer in 2008, the cervical cancer incidence was reported as 15.2 in one hundred thousand in the world, and 4.2 in one hundred thousand in Turkey. According to the present data, among all gynaecologic cancer types, the cervical cancer is ranked as the 3rd most frequent cancer for women after endometrial and ovarian cancers [1]. Considering the incidence of cervical cancer in 8 provinces in our country, Erzurum is ranked as the 5th with the rate of 2.18% [2].

There is a number of health behaviours that decrease the risk of cervical cancer; however, none of them are as effective as taking a routine Pap Smear [3] [4]. It is indicated in literature that the mortality rate caused by cervical cancer has decreased in countries, where periodic examinations and screenings are performed [3] [4] [5] [6] [7]. The number of women who take the Pap Smear test, which is so important in early diagnosis, is not at the desired level in all over the world and in our country [4] [7].

Individual plays an active role in promoting his/her health, sustaining a healthy life style and fulfilling activities regarding this life style [8]. As is known, the health of individuals and societies is not protected spontaneously. It is required to know how to benefit from studies and facilities aimed at protecting and enhancing the health in the optimum way and involve the known ones in human and social life as positive behaviours and habits. This is possible only by determining the attitudes of individuals regarding health. If it is required to provide a change of attitude in a certain subject, it is beneficial to know the reason for having that attitude [9] [10]. Thus, it will be possible to make changes on attitudes providing that beliefs and attitudes regarding health behaviours are defined [11].

There are various models for the individual to develop, adopt and apply the health behaviour. Being one of these health models, the “Health Belief Model” indicates existence of a relation between the beliefs and behaviours of individual. The “Health Belief Model”, which is used in numerous studies for the purpose of explaining preventive health behaviours, was developed by Rosentock in 1950. This model is beneficial in understanding and foreseeing how the patients will behave regarding their health and how they will accept the health care treatments [12] [13].

If it is intended to protect and promote the health, the first requirement is to “provide an effective health training”. The objective of the health training is to form a behavioural change, which will meet the needs of the individual and society, and enable individuals to protect and promote their health, avail of the treatment facilities and create a positive environment for a healthy life [14].

The purpose of this study is to examine the effect of training and consultancy on women’s knowledge level and health belief regarding the cervical cancer screenings and their participation in screenings.

2. Materials and Methods

The study was conducted as pre-experimental with one group pretest and posttest. The

population of the study consists of married women, who attended courses and trainings in Gölbaşı Youth Centre, Family Consulting Centre, and Community Centre in the province of Erzurum between March-June 2011. Whole population of the study was included as the sample group. The criteria required in the sample group of the study are; being married and literate, having received no training on cervical cancer before, not being diagnosed with cervical cancer, having undergone no hysterectomy operation and having taken no Pap Smear test for the last 1 year.

70 individuals participated in the study in the phase of pretest; however, since following the first training 4 persons who did not want to participate in the study, were excluded, the study was completed with 66 persons.

Collection of the Data: “*Personal Information Form*”: Form was prepared by the researcher.

Consist of a total of 7 questions to determine descriptive characteristics of women (Age, Educational Status, Working Status, Spouse’s Educational Status, Spouse’s Occupational Status, Income Status and Social security situation).

“*Information Form of Cervical Cancer Screenings*”: Form was prepared by the researcher. This form consists of a total of 14 questions aimed at determining the knowledge of women about cervical cancer and early diagnosis.

“*Assessment Form Concerning Taking the Pap Smear Test*”, was developed by the researcher in the light of the literature [4] [6] [13]. This form was applied to intermediate tests and final test. The form consists of 3 questions about the status of participating in the scans in the last month and questioning the effect of education and counseling on participation in scans.

“*Health Reliance Model Scale for Cervical Cancer and Pap Smear Test*”, which was developed by Güvenç, Akyüz and Açikel [13] based on the Health Belief Theory, were used to collect the data. This scale includes a total of 35 items. The related scale has 5 subscales. It is a 5-point Likert type scale. Each subscale of the scale is evaluated individually and they are not combined in one total score. Subscales, except for the subscale of barrier, have a positive relationship with the Pap Smear screening behaviour. None of the items in the scale are scored inversely [13].

The data of the study were collected in conference halls of each institution. Application of pretest forms lasted approximately 15 - 20 minutes. Following the application of pretest forms, the Training I (60 minutes), (Anatomy of the cervix, cancer of the cervix, risk factors, symptoms, ways of protection, early diagnosis and importance have been studied), individual and group consultancy (approximately 60 - 70 minutes) was conducted and then booklets were distributed. The Training II (repetition of the Training I), individual and group consultancy, was conducted one month after the Training I. Those who did not take the Pap Smear test were called 15 days after the Training II and informed about the importance of taking the Pap Smear. The Training III (repetition of the I. training), individual and group consultancy, was conducted one month after the Training II and those who did not take the Pap Smear test were called 15 days after the Training III in order to emphasise the importance of taking the Pap Smear once again.

One month after the Training III, posttest forms were applied within nearly 15 - 20 minutes. Training and consultancy were used as the nursing intervention in the study. Booklet, model, computer and projection were used as auxiliary devices in the study. *Information Form of Cervical Cancer Screenings*”, “*Assessment Form Concerning Taking the Pap Smear Test*”, and “*Health Reliance Model Scale for Cervical Cancer and Pap Smear Test*” were used in the post test.

Assessment of the Data: SPSS 18 software program was used to conduct statistical analysis of the data. Mean, percentage, Cronbach alpha, McNemar test and paired samples t test were used to assess the data.

Ethical Principles of the Study: Before starting the study, an approval was received from the Ethics Committee and a written permission was obtained from institutions where the study was conducted. Voluntary women were included in the study.

Limitations of the Study: This study is limited with women, who attended courses and trainings in the aforementioned centres between dates when the study was conducted. It cannot be generalised.

3. Results

Examining descriptive characteristics of women within the scope of the study; the average age of women was found to be 34.74 ± 8.87 . Of the women, 43.9% were in the age group of 30 - 39; 62.1% were primary school graduates or had a lower education; 90.9% were unemployed; 84.8% had social security; and 53% had a medium level of income.

Table 1 illustrates that there was an increase in posttest knowledge levels and positive attitudes of women, who were included in the study, compared to the pretest and the difference between them was statistically significant ($p < 0.001$). 51.5% of women stated to abstain from the gynaecological examination in the pretest and this rate decreased to 40.9% in the posttest. However, the difference was not statistically significant ($p > 0.05$).

As a result of the statistical analysis, it was found that the difference between states of taking the Pap Smear test after the training and consultancy I and the training and consultancy II, and between states of taking the Pap Smear test after the training and consultancy II and training and consultancy III was statistically significant ($p < 0.001$). It was determined that 45.5% of women took the Pap Smear test at the end of all trainings and consultancies (**Table 2**).

Examining the distribution of relevant behavioural features of women who took the Pap Smear test; the training and consultancy had an effect of 100%, booklets 100% and telephone calls 25% (**Table 3**).

The pretest and posttest score averages of the relevant scale were compared in **Table 4**. It was determined that mean score of the “*Perception of Pap Smear benefit and motivation*” increased in the posttest compared to the pretest and the difference between them was statistically significant ($p < 0.001$). Mean score of the “*Perception of Pap Smear barriers*” decreased in the posttest compared to the pretest and the difference between them was statistically significant ($p < 0.001$). Mean score of the “*Perception of CC susceptibility*” decreased in the posttest compared to the pretest and the difference

Table 1. Comparison of pretest and posttest scores of knowledge levels and attitudes of women regarding the cervical cancer (CC) screenings (n = 66).

Information	Pretest		Posttest		McNemar test p value
	S %	S %	S %	S %	
Defining the CC					
She is informed	19	28.8	59	89.4	p < 0.001
She is not informed	47	71.2	7	10.6	
Information Resources for CC					
Family/Relatives/Friends/Neighbours	7	10.6	---	---	...
Medical Personnel	24	36.4	66	100.0	
Internet-media/books, journals	35	53.0	---	---	
Risk Factors for CC					
She is informed	10	15.2	50	75.8	p < 0.001
She is not informed	56	84.8	16	24.2	
Early Symptoms of CC					
She is informed	10	15.2	52	78.8	p < 0.001
She is not informed	56	84.8	14	21.2	
What to Do in Case of Doubts about CC Emerge					
She is informed	34	51.5	61	92.4	p < 0.001
She is not informed	32	48.5	5	7.6	
Recognition of the Pap Smear Test					
Yes	22	33.3	66	100.0	...
No	44	66.7	---	---	
Knowledge of Pap Smear					
She is informed	18	27.3	55	83.3	p < 0.001
She is not informed	48	72.7	11	16.7	
Age of Taking the Pap Smear Test					
She is informed	13	19.7	53	80.3	p < 0.001
She is not informed	53	80.3	13	19.7	
Frequency of Taking the Pap Smear Test					
She is informed	18	27.3	61	92.4	p < 0.001
She is not informed	48	72.7	5	7.6	
The Most Convenient Time for Taking the Pap Smear Test					
She is informed	5	7.6	40	60.6	p < 0.001
She is not informed	61	92.4	26	39.4	
Points to Consider Before Taking the Pap Smear Test					
She is informed	3	4.5	38	57.6	p < 0.001
She is not informed	63	95.5	28	42.4	
Attitudes					

Continued

Thoughts about Taking the Pap Smear Test in the

Future

Yes, I will	30	45.4	51	77.3	p < 0.001
No, I will not	12	18.2	4	6.0	
I am not sure	24	36.4	11	16.7	

State of Abstaining from the Gynaecological

Examination

Yes	34	51.5	27	40.9	p > 0.05
No	32	48.5	39	59.1	

Reason for Abstaining (n = 34)

Shame	21	61.8	19	70.4	p > 0.05
Fear	5	14.7	3	11.1	
Gynaecologicaltable	8	23.5	5	18.5	

Table 2. Distribution of state of women in taking the pap smear test after the trainings and consultancies.

Trainings and Consultancies	Those Who Took the Pap Smear Test		Those Who Did Not Take the Pap Smear Test		Total		P value
	S	%	S	%	S	%	
	After Training and Consultancy I	1	1.5	65	98.5	66	
After Training and Consultancy II	13	20.0	52	80.0	65	100	
After Training and Consultancy III	16	30.8	36	69.2	52	100	
Total	30	45.5	36	55.5	66	100	

Based on those, who did not take the test, in total. p value; the result of McNemar test. p = 0.05 (compare with pre-rehabilitation).

Table 3. Distribution of factors affecting women to take the pap smear test.

Factors (n = 30)	After Training I		After Training II		After Training III	
	S	%	S	%	S	%
	Training and Consultancy					
It was effective	1	100.0	13	100.0	16	100.0
It was not effective	---	---	---	---	---	---
Booklets						
It was effective	1	100.0	10	76.9	16	100.0
It was not effective	---	---	3	23.1	---	---
Telephone Calls						
It was effective	---	---	2	15.4	4	25.0
It was not effective	---	---	11	84.6	12	75.0

Only answered by individuals who participated in screenings.

Table 4. Comparison of pretest and posttest mean scores of women for subscales of health belief scale. (n = 66).

Subscales of the Scale	Pretest	Posttest	Test and p Value	
	X ± SD	X ± SD	t	p
Perception of Pap Smear Benefit and Motivation	3.7 ± 0.9	4.3 ± 0.7	4.933	p < 0.001
Perception of Pap Smear Barriers*	2.9 ± 0.7	2.4 ± 0.7	-5.581	p < 0.001
Perception of CC Regard/Seriousness	3.3 ± 1.0	3.1 ± 1.1	-1.874	p > 0.05
Perception of CC Susceptibility	2.7 ± 0.9	2.1 ± 0.9	-5.904	p < 0.001
Perception of CC Health Motivation	3.2 ± 0.9	3.1 ± 1.0	-0.837	p > 0.05

*Decrease of the mean score signifies that barriers decrease as well. Values given are mean ± SD. p < 0.05 (compare with prerehabilitation value).

between them was statistically significant (p < 0.001). Mean scores of the perceptions of “CC regard/seriousness” and “CC health motivation” decreased in the posttest compared to the pretest and the difference between them was statistically insignificant (p > 0.05).

4. Discussion

It was found that there was an increase in posttest knowledge levels of women, who were included in the study, regarding the cervical cancer compared to their pretest knowledge levels and the difference between the pretest and posttest rates was statistically significant (p < 0.001). Similarly, in the study of Yücel [15], it was reported that women had higher posttest knowledge mean scores than pretest knowledge mean scores after the training, compared to the period before the training. In the study conducted by Lam *et al.* [16], they observed that knowledge of women who were trained about the cervical cancer had increased on the subject of the importance of the Pap Smear test. As is indicated in the studies conducted previously, the training on this subject enables women to learn the Pap Smear test and understand that it is an easy test. By this way, it is expected that the rates of participating the test will increase.

Knowledge level is an important element that affects the participation in screenings. Another element that is as important as knowledge is the attitudes regarding this subject. It was determined that there was an increase in all of the questions, which measured the attitudes of participating women, towards the cervical cancer, in the posttest compared to the pretest and the difference between them was statistically significant (p < 0.001). This result shows that informing will create awareness in individuals who have insufficient medical knowledge and affect their participation in cervical cancer screenings positively. A number of studies proved that having information about the cervical cancer and Pap Smear test affects the participation in cervical cancer screening programs [15] [17] [18].

Gynaecological examination is one of the practices women do not like much. The main reason for this is related with the fact that the examination is performed on the

private area of women. Besides, negative attitude of the medical staff, the fact that the person who examines is a member of the opposite sex, examination position and instruments used, previous negative examination experiences and failure of paying attention to privacy are among other reasons. All these lead women to abstain from the gynaecological examination [19] [20]. In this study, while the rate of abstaining from the gynaecological examination was 51.5% in the pretest, it decreased to 40.9% in the post-test. The difference between them was statistically insignificant ($p > 0.05$). This result concludes that the trainings decreased the related rate slightly; however, it still is not at the desired level. It is thought that privacy and the cultural condition comprise a resistance factor on this subject.

Among the reasons for abstaining from the gynaecological examination, shame is placed on the top with a rate of 61.8%. Even though the factor of shame, which has an important place among the reasons for abstaining, seems to be increasing in the post-test (70.4%) compared to the pretest (61.8%), it is actually thought that those who abstained due to other reasons such as fear and gynaecological table gave up this after being informed; however, the factor of shame became prominent afterwards. The study of Erbil *et al.* [21] determined that 62.5% of women were ashamed of the gynaecological examination. Similar results were also obtained in other studies [4] [19] [20]. Since the gynaecological examination is performed on genital areas of women, the factor of shame has always constituted a problem.

It was determined that women who were included in the study had an increase in state of taking the Pap Smear test after the trainings and consultancies. Also, 45.5% of women took the Pap Smear test at the end of all trainings and consultancies. The difference between states of taking the Pap Smear test after trainings and consultancies was statistically significant ($p < 0.001$) (**Table 2**). This is an important and expected result in order for training and consultancy to show their effect. It demonstrates that in the event of providing a regular training and consultancy for women, their tendency in taking the test will increase. Thus, it is required for women to be informed by medical professionals regularly. In a study which examined the state of women to take the Pap Smear test; it was indicated that the rates of taking the Pap Smear test increased as their knowledge levels about the Pap Smear test and their risk perceptions about the cervical cancer increased [4]. In Yücel's study, it was determined that the difference between the states of women to take the test before and after the training was statistically significant and women, who had previously taken the Pap Smear test, had higher rates of taking the Pap Smear test after the training [15].

Examining the factors that were effective for women to take the Pap Smear test; it was observed that the training and consultancy being provided, booklets and telephone calls became effective on the participation in screenings (**Table 3**). Studies conducted on early diagnosis behaviours regarding the breast and cervical cancer revealed that the frequent use of reminders (telephone calls, sending e-mails and mails, peer groups), which are cues to action, were effective on sustaining the behaviour [22] [23]. In her study, Yücel showed that conducting the training by using visual training devices and

reaching individuals through home visits had an important role in making the training, which was given to women, effective [15]. In the study of Lam et al, it was found that the rate of taking the Pap Smear test was higher in women who were trained [16].

Examining the comparison of pretest and posttest mean scores obtained by women from subscales of health belief scale in **Table 4**; it was determined that while mean score of the “Perception of Pap Smear Benefit and Motivation” was 3.7 ± 0.9 in the pretest, it increased to 4.3 ± 0.7 in the posttest; while mean score of the “Perception of cervical cancer susceptibility” was 2.7 ± 0.9 in the pretest, it decreased to 2.1 ± 0.9 in the posttest; while mean score of the “Perception of Pap Smear barriers” was 2.9 ± 0.7 in the pretest, it decreased to 2.4 ± 0.7 in the posttest and the difference between them was statistically significant ($p < 0.001$). Jirojwong *et al.* indicated that the rate of taking the Pap Smear test was 1.3 times greater in women who had a high level of the perceived benefit, compared to those who had a low level [24]. Golian Tehrani and Yousefi, Meray stated that educational interventions provide an increase in the perception of benefit for women [25] [26]. Regarding the Pap Smear test, McFarland indicated that the barriers perceived by women included lack of knowledge, negative attitudes towards the medical personnel, low motivation, being afraid of the test, gender of the personnel and inability to reach the physician [27]. Meray determined that educational interventions provided a decrease in the perception of barrier for women. Similarly, it was observed in this study that educational interventions decreased the perception of barrier. It is thought that as well as training and consultancy prevent the barriers that are caused by lack of knowledge or misinformation, all other reminders (booklets and telephone calls), are effective on preventing the barriers that are caused by oblivion. It was determined that receiving training and consultancy on cervical cancer and screenings did not increase the perception of susceptibility [26].

It was determined that while mean score of the “Perception of cervical cancer regard/seriousness” was 3.3 ± 1.0 in the pretest, it decreased to 3.1 ± 1.1 in the posttest; while mean score of the “Perception of cervical cancer health motivation” was 3.2 ± 0.9 in the pretest, it decreased to 3.1 ± 1.0 in the posttest and the difference between them was not statistically significant ($p > 0.05$). Training and consultancy regarding the cervical cancer and screenings did not increase the perception of regard/seriousness. Jirojwong *et al.* determined that the rate of taking the Pap Smear test was 1.6 times higher in women who had a high level of the “perceived seriousness” compared to those who had a low level. The sample group, in which the study was conducted, included individuals who were mostly asymptomatic and healthy. There was no one who had cervical cancer in their family and environment. This situation might have obstructed the formation of sufficient seriousness and susceptibility in women [24]. Ford *et al.* reported that the motivation level aimed at screening has an effect on the participation in screenings. In this study, it is thought that the ever-existing negative attitudes of women towards the gynaecological examination were effective on the failure of training and consultancy to increase the level of health motivation significantly [28]. Besides, the thought of “nothing will ever happen to me”, which is generally encountered in in-

dividuals, might also have been effective. The reason behind why the training and consultancy provided, have failed in being effective on subscales of the perceptions of regard/seriousness, susceptibility and health motivation might have been lower educational level of women. These perceptions are likely to be formed in longer periods in lower educational levels.

5. Conclusion and Recommendations

- Knowledge levels and attitudes of women, who were included in the study, regarding the cervical cancer increased in the posttest compared to the pretest;
- The rate of participating in cervical cancer screenings increased in parallel with the training repetition and 45.5% of women took the Pap Smear test at the end of all trainings;
- Regarding women who took the Pap Smear test, training and consultancy had an effect of 100%, booklets 100% and telephone calls 25%;
- The interventions made a positive contribution to the perceptions of “*benefit*” and “*barrier*”, which were among the components of health belief model;
- There was no positive development in the perceptions of “*regard/seriousness*”, “*susceptibility*” and “*health motivation*”, which were the other components.

6. In Line with These Conclusions, the Recommendations Are as Follows

- Increase the knowledge and susceptibilities of women for the cervical cancer and screening of Pap Smear test in cooperation with the Cancer Early Diagnosis, Screening and Training Centre;
- Increase the knowledge levels of women with the help of repeated trainings and media support;
- Support the trainings with materials such as booklets, brochures, CDs;
- Inform the women about the cervical cancer through trainings to be conducted by using the health belief model, increase the perception of benefit, determine and remove the perceived barriers, and develop the perceptions of regard/seriousness, susceptibility, and health motivation.

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Conflict of Interest

The authors have no funding or conflict of interest to disclose. None declared.

Key-Points

As is known, the health of individuals and societies is not protected spontaneously. It is required to know how to benefit from studies and facilities aimed at protecting and enhancing the health in the optimum way and involve the known ones in human and social life as positive behaviours and habits. This is possible only by determining the attitudes of individuals regarding health. Also this study was presented as poster proceeding in II-National Congress of Transcultural Nursing 3-5 June 2013 Antalya/TURKEY. The authors have no funding or conflicts of interest to disclose.

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