Effect of Online Education Given to Young Adults on Testicular Cancer Health Beliefs and Behaviors

Genç Yetişkinlere Verilen Online Eğitimin Testis Kanseri Sağlık İnançları ve Davranışlarına Etkisi

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ABSTRACT

Objective: Early detection of testicular cancer is cost-effective and accessible through screening and promoting health beliefs tailored to awareness. Self-examination is equally vital, yet research on young adult males in Türkiye regarding testicular cancer health beliefs and early diagnostic behaviors is limited. This study evaluates the effect of online educational interventions on shaping health beliefs in this population.

Methods: A randomized controlled experimental design was utilized, involving 112 males aged 18–35 attending family health centers under the Ağrı Provincial Health Directorate between April 2021 and June 2022. Using random sampling, 90 participants were selected. Data were collected via the "Introductory Information Form" and "Champion's Health Belief Model Scale." Statistical analyses included descriptive statistics, chi-square, Greenhouse-Geisser correction, Sphericity Assumption assessment, Cochran Q, McNemar test, and Independent Groups t-test.

Results: Sociodemographic characteristics were homogeneous between experimental and control groups (p > 0.05). The intervention, based on the Testicular Cancer Health Belief Model, significantly improved participants' health beliefs and behaviors. Positive changes were observed in perceived sensitivity, seriousness, benefits, and self-efficacy, alongside reduced perceived barriers (p < 0.05).

Conclusion: Online education positively influenced health beliefs related to testicular cancer, highlighting its potential in awareness and proactive health engagement. This study enriches the limited research on health beliefs and early diagnostics among young Turkish males, emphasizing the utility of digital platforms in addressing critical health concerns.

Keywords: Health belief model, online education, self-examination of testicles

ÖZ

Amaç: Testis kanserinin erken teşhisi, farkındalığa uygun sağlık inançlarının teşvik edilmesi ve taranmasıyla hem maliyet etkin hem de erişilebilir hale gelmektedir. Kendi kendine muayene, bu süreçte kritik bir öneme sahiptir. Ancak Türkiye'de genç yetişkin erkekler arasında testis kanseriyle ilgili sağlık inançları ve erken teşhis davranışlarına dair araştırmalar sınırlıdır. Bu çalışma, online eğitim müdahalelerinin bu popülasyondaki sağlık inançları üzerindeki etkisini değerlendirmeyi amaçlamaktadır.

Yöntemler: Araştırma, Nisan 2021-Haziran 2022 döneminde Ağrı İl Sağlık Müdürlüğü'ne bağlı aile sağlığı merkezlerinde hizmet alan 18-35 yaş arası 112 erkekle randomize kontrollü deneysel bir tasarım ile yürütülmüştür. Rastgele örnekleme yöntemiyle 90 katılımcı seçilmiştir. Veriler "Tanıtıcı Bilgi Formu" ve "Champion'un Sağlık İnanç Modeli Ölçeği" kullanılarak toplanmıştır. İstatistiksel analizlerde tanımlayıcı istatistikler, ki-kare testi, Greenhouse-Geisser düzeltmesi, Küresellik Varsayımı testi, Cochran Q, McNemar testi ve Bağımsız Gruplar t-testi uygulanmıştır.

Bulgular: Deney ve kontrol grupları arasında sosyodemografik özellikler homojen bulunmuştur (p > 0.05). Testis Kanseri Sağlık İnanç Modeli'ne dayalı müdahale, katılımcıların sağlık inançlarında ve davranışlarında anlamlı iyileşmelere yol açmıştır. Algılanan duyarlılık, ciddiyet, faydalar ve öz yeterlilikte olumlu artışlar görülürken, algılanan engellerde azalma tespit edilmiştir (p < 0.05).

Sonuç: Online eğitim, testis kanserine ilişkin sağlık inançlarını olumlu yönde etkileyerek farkındalık ve proaktif sağlık katılımı konusundaki potansiyelini vurgulamıştır. Bu çalışma, genç Türk erkekleri arasında sağlık inançları ve erken teşhis konusundaki sınırlı araştırmayı zenginleştirmekte ve dijital platformların kritik sağlık sorunlarını ele almadaki faydasını vurgulamaktadır.

Anahtar Kelimeler: Sağlık inanç modeli, online eğitim, kendi kendine testis muayenesi

Introduction

Cancer is defined as a medical condition characterized by uncontrolled cell division and proliferation within an organ or tissue. According to statistics released by the Cancer Department of the Ministry of Health of the Republic of Türkiye, approximately five hundred new cancer cases are diagnosed daily in the country. Notably, cancer ranks second only to cardiovascular diseases among the leading causes of mortality in Türkiye, as well as worldwide (Ministry of Health, 2017).

In certain cancer types, early detection can be facilitated through screening and self-examination. Timely diagnosis, coupled with effective treatment, not only enhances survival rates but also contributes to improved quality of life and reduced healthcare expenditures (Polat & Duran, 2018).

Testicular cancer emerges as a result of genetic mutations or abnormalities within testicular cells, leading to uncontrolled and abnormal growth over time (Roy & Casson, 2017). High-prevalence testicular tumors in young adults comprise approximately 24% of all tumors within the urogenital system (Gürsoy et al., 2019).

Testicular cancer bears a particular significance for individuals within the 15 to 35 age group, as it is a type of malignancy that lends itself to early detection through self-examination, primarily affecting men within this age range. Annually, the United States reports around 8,000 cases of testicular cancer, while the United Kingdom reports approximately 1,400 cases. Although Türkiye's incidence rate is recorded at 1.3%, testicular cancer stands as the most prevalent form, especially among males aged 15 to 24 (Yiğitbaş et al., 2016).

To bolster the prospects of early detection, a regular testicular self-examination (TSE) is resolutely advised, particularly for young adults. The practice of routine testicular self-examination (RTSE) involves assessing the testicle's mass direction with one hand while stabilizing it with the other, ideally using a mirror, on a monthly basis—preferably post-shower or during (Sagir & Altinel, 2023). However, a notable research gap surfaces, revealing a significant number of men lacking knowledge on conducting TSE (Ilo et al., 2022). Positively, self-testicular examination stands out as a cost-effective, efficient, and dependable technique that necessitates only minimal time investment. Consequently, promoting the implementation and regular adherence to TSE emerges as a promising avenue to mitigate the risk of testicular cancer and augment the prospects of successful recovery (Yakar et al., 2023).

The Health Belief Model (HBM) is an effective framework that guides health protection and enhancement efforts, aiming to modify health-detrimental behaviors and attitudes, as well as to motivate individuals dealing with illnesses to embrace appropriate treatments (Zaidlin et al., 2022). In scenarios involving individual concerns such as breast, prostate, testicular, and cervical cancer screenings, HBM has been employed to dissect the factors underpinning current health behaviors. Furthermore, HBM-based assessment tools have been devised for numerous preventable diseases.

In the existing literature, studies employing online approaches to delve into the health beliefs of young adults regarding testicular cancer, promoting RTSE for early detection, and encouraging participation in screenings, remain limited. In line with this, the objective of this study was to assess the impact of online training aimed at young adults, focusing on their health beliefs concerning testicular cancer and their inclination towards early diagnostic behaviors.

Hypotheses

H_0: The training provided to individuals in the online training group has no effect on the components of the Health Belief Model.

H_1: The training provided to individuals in the online training group has an effect on the components of the Health Belief Model.

Methods

Study Design

This randomized controlled experimental trial was conducted between April 2021 and June 2022, involving young adult individuals aged 18 to 35, who sought services at family health centers affiliated with the Ağrı Provincial Health Directorate.

The research targeted young adult individuals who presented themselves to family health centers linked to the Ağrı Provincial Health Directorate. The study sample size was determined through a power analysis, indicating that a minimum of 34 individuals needed to be reached at a significance level of 0.05 and a confidence interval of 80%. Employing a convenience sampling method, the study ultimately included 90 individuals.

Inclusion and Exclusion Criteria

Individuals between the ages of 18-35 who are literate, capable of using information technologies, have not previously been diagnosed with testicular cancer, and express a voluntary desire to participate in the study were included.

Individuals outside the 18-35 age range and those who have

been previously diagnosed with testicular cancer were excluded.

Randomization

Prior to initiating the study, individuals who met the inclusion criteria and demonstrated their voluntary interest in participation were meticulously identified by the researchers. The cohort of individuals satisfying the stipulated research criteria underwent a division into two equitably sized entities: the experimental and control groups. This division aimed to preserve the independence of their preparatory phases, grounded in the realms of family health centers and online training, respectively. The method of drawing was judiciously employed to allocate participants to their designated groups, resulting in the establishment of the experimental and control cohorts. Notably, this selection process involved the designation of two distinct balls, with the subsequent distribution of numbers executed in a proportionally unbiased manner, thereby ensuring a fair and impartial representation (Singh & Singh, 2003).

Data Collection

The research data were collected through the utilization of the Introductory Information Form and the Champion's Health Belief Model Scale (CHBMS). Data collection was facilitated through the distribution of online forms to the respective groups, where students' collective announcements were disseminated, as prepared by the researchers.

Data Collection Tools

Introductory Information Form: Comprising questions designed by the researchers following an in-depth review of the literature, this form encompasses fundamental characteristics of the individuals under investigation.

Champion's Health Belief Model Scale (CHBMS): Originating from the work of Barnes in 2000 (Barnes, 2000) the scale was adapted and validated in Türkiye by Pınar et al. in 2011 (Pınar et al., 2011). The CHBMS consists of five sub-dimensions and 26 items, namely: "Sensitivity (1, 2, 3, 4, 5), Caring/Seriousness (6, 7, 8, 9, 10, 11, 12), Benefits (13, 14, 15), Barriers (16, 17, 18, 19, 20), Self-efficacy/Confidence (21, 22, 23, 24, 25, 26)." The scale's sub-dimensions demonstrate Cronbach's alpha values ranging from 0.64 to 0.92. Employing a five-point Likert-type format, the scale offers a range of scores from 1 to 5, corresponding to "I strongly disagree" (1), "disagree" (2), "undecided" (3), "agree" (4), and "strongly agree" (5). Scores span from 26 to 130, primarily reflecting the scale's diverse sub-dimensions in evaluation. Notably, the scale lacks a cumulative total score (Pınar et al., 2011). In this specific study, the Chronbach's alpha value ranges between 0.76 and 0.93.

Implementation of Data Collection Tools

Implementation of pre-test data collection tools: The study's initiation involved informative sessions designed to familiarize participants with the research's objectives. Subsequent to these sessions, logistical arrangements were established with the pertinent center to administer the preliminary test. During the data collection process, both study groups engaged in the completion of two instruments: the "Introductory Information Form" and the CHBMS. The completion of each questionnaire demanded an estimated time frame of 5-10 minutes.

Implementation of mid-test data collection tools: The cohort designated for online training underwent a meticulously designed regimen encompassing six sessions distributed over a span of three months. The delivery occurred via a dedicated online platform. Importantly, no interventions were undertaken with the control group during the study's duration. Subsequent to each training session, the CHBMS survey, meticulously constructed utilizing Google Forms, was expeditiously circulated to both study groups. This facilitated the collection of interim test data, fostering a comprehensive understanding of evolving responses.

Implementation of post-test data collection tools: As the training period's culmination unfolded, a three-month interval ensued before the deployment of the CHBMS survey. This instrument, meticulously structured through Google Forms, was shared anew with both study groups. The quest for final test data, culminating the post-test data collection phase, represented an important terminus in this study's research trajectory.

Nursing Initiatives

The educational program, meticulously designed by the researcher, was executed for the experimental group via a dedicated online platform over an extensive period of three months. Each module encompassed within the training curriculum boasted an average duration of 40 minutes. A noteworthy feature of the program was the provision of individualized feedback and the resolution of queries for each participant subsequent to the training sessions.

The training sessions on testicular cancer organized over the weeks first sensitized the participants to testicular cancer. In this context, detailed information on the definition, causes, importance of prevention, and management of testicular cancer was presented. Then, in the second training, the perception of importance and seriousness toward testicular cancer was created, and the effects of testicular cancer on health and the impacts of physiological and mental disorders were discussed. In the third training, the perception of the benefits of testicular cancer was developed, emphasizing

the advantages of testicular cancer management, the benefits of testicular self-examination, and the importance of participating in testicular cancer screenings. In the fourth and fifth trainings, participants were presented with the obstacles and solutions that may be encountered in testicular self-examination and testicular cancer management. Finally, in the sixth training, participants' perception of self-efficacy toward testicular self-examination was assessed, and positive behaviors were encouraged within the group.

Utilized Tools In The Initiative

Online platform: The research-derived online platform served as a pivotal instrument for delivering comprehensive training to the designated online training group. This dynamic platform harnessed various multimedia elements, encompassing videos and images. It further augmented the learning experience through the provision of email-based assistance and readily accessible contact information.

Testicle model BSETSE training kit: Integral to the initiative, the Testicle Model BSETSE Training Kit was generously supplied as part of the "Atatürk University Scientific Research Projects." This specialized kit featured synthetic tumors meticulously embedded within the right and left testicles, closely mirroring authentic testicular tissue. Throughout the entirety of the experimental group's training sessions, this training set proved invaluable in furthering comprehension and practical skills.

Data Analysis

The statistical analysis of the study was conducted using IBM SPSS V-25 software. Stringent measures were taken to ensure data security and confidentiality. Descriptive statistics are employed to present defining characteristics in terms of both frequency (n) and percentage (%). Continuous variables are delineated through their mean, standard deviation, minimum, and maximum values. To assess the data's normal distribution, appropriate normality tests were executed, confirming its adherence to the criteria of normality (kurtosis and skewness within the range of -1.5 to +1.5) (Tabachnick et al., 2007).

The study employed a range of analytical methodologies including the evaluation of the reliability of measurement tools through calculating the Cronbach's α coefficient. The determination of homogeneity for categorical variables was achieved via the Chi-square test. Variance analysis, utilizing repeated measurements, was conducted for pre-intermediate-final testing of health belief components, encompassing "F" values such as Greenhouse-Geisser and Sphericity Assumed F values. Percentile comparisons for the pre-intermediate-final test on testicular examination conduct were executed using Cochran's Q analysis and McNemar testing. The assessment of inter-group differences in health belief components was performed through the Independent Samples t-test. To establish statistical significance in the study's findings, a significance level of p<0.05 was adopted.

Ethical Principles

In advance of initiating the research endeavor, necessary approvals were obtained through due diligence from the Ağrı İbrahim Çeçen University Scientific Research Ethics Committee (Approval Date: 28/04/2021; Approval Number: 125). Furthermore, written authorizations were procured from the institutions acting as the operational contexts for this study. With unwavering transparency, the research's aspirations were communicated, harmonizing seamlessly with the ethical precepts encompassing 'Confidentiality and Protection of Confidentiality,' 'Respect for Autonomy,' and the overarching principle of 'Do No Harm/Benefit.' The realization of these ethical tenets was ensured through the enrollment of participants who volunteered to partake, thus upholding their autonomy.

Central to the research's moral compass was an unswerving dedication to safeguarding individual rights. As an embodiment of this commitment, the research meticulously adhered to the ethical principles outlined in the Helsinki Declaration of Human Rights throughout the entire trajectory of its implementation.

The research's methodology adopted a self-administered online survey design. Following the receipt of formal approvals, the questionnaire's hyperlink was disseminated via the dedicated WhatsApp group associated with the pertinent academic course, thereby extending the invitation to all eligible participants. Notably, the survey's execution transpired through the utilization of Google Forms, an esteemed online survey platform renowned for its security and credibility.

Supporters of The Research

Results

It was determined that 82.2% of the individuals in the experimental group (EG) were single, 55.6% held a bachelor's degree, 73.3% possessed social security coverage, 66.7% did not smoke, 86.7% refrained from alcohol use, 37.8% had an income equivalent to their expenses, 68.9% did not engage in regular exercise, and 64.4% had prior awareness of testicular cancer.

It was determined that 71.1% of the individuals in the control group (CG) were single, 22.2% held a bachelor's degree, 84.4% possessed social security coverage, 53.3% did not smoke, 73.3% abstained from alcohol consumption, 42.2% reported having income equal to their expenses, 82.2% did not engage in regular exercise, and 53.3% had no prior knowledge of testicular cancer.

The comparison of the descriptive features of both groups revealed that all demographic variables are homogeneous (p>.05) (Table 1).

Pre-Mid-Posttest in-group and intergroup CHBMS scores of the participants in the EG and CG are provided in Table 2.

Pre-test Sensitivity Scores of the Individuals Were Examined;

The pre-test mean scores in the Perceived Sensitivity sub-dimension of both the DG and CG individuals were not statistically significant (p>.05) (Table 3).

Mid-Test Sensitivity Scores of the Individuals Were Examined;

A statistically significant difference was observed in the mean scores of the individuals' mid-test Perceived Sensitivity sub-dimension (p<.05) (Table 3).

Sensitivity Score Averages According to the Post-Test Were Examined;

Significant differences were found in the mean scores of the individuals' post-test Perceived Sensitivity sub-dimension (p<.05) (Table 3).

Experimental Group Sensitivity Score Averages Were Examined;

In the experimental group (EG), it was noted that the mean scores of the individuals in the Perceived Sensitivity sub-dimension increased during both the mid-test and post-test phases (p<.05) (Table 3).

Control Group Sensitivity Score Averages Were Examined;

It was determined that there was no significant increase in the mean scores of the Sensitivity Perception sub-dimension for the participants in the control group in the mid-test and post-test (p>.05) (Table 4).

Pre-test Seriousness Scores of the Individuals Were Examined;

It was determined that the pre-test mean scores of the two groups in the Perceived Seriousness sub-dimension were not statistically significant (p>.05) (Table 4).

Mid-test Seriousness Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the mid-test Perceived Seriousness sub-dimension was statistically significant (p<.05) (Table 4).

Post-test Seriousness Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the post-test Perceived Seriousness sub-dimension was statistically significant (p<.05) (Table 4).

Experimental Group Seriousness Score Averages Were Examined;

It was observed that the mean scores of the individuals in EG for the Perceived Seriousness sub-dimension increased in the mid-test and post-test (p<.05) (Table 4).

Control Group Seriousness Score Averages Were Examined;

It was determined that there was no significant increase in the mean scores of the Perceived Seriousness sub-dimension for the individuals in the control group in the mid-test and post-test (p>.05) (Table 4).

Pre-Test Benefit Scores of the Individuals Were Examined

It was determined that the pre-test mean scores of the two groups in the Perceived Benefit sub-dimension were not statistically significant (p>.05) (Table 5).

Mid-Test Benefit Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the mid-test Perceived Benefit sub-dimension was statistically significant (p<.05) (Table 5).

Post-Test Benefit Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the post-test Perceived Benefit sub-dimension was statistically significant (p<.05) (Table 5).

Table 1.
Descriptive Characteristics of Individuals (N=90)

Variables		EG (n: 45)		CG (n: 45)		
		Number	%	Number	%	
Marital status	Married	8	17.8	13	28.9	χ2= 1.553*
	Single	37	82.2	32	71.1	p= .319
Educational status	Secondary education	11	24.4	9	20.0	χ2= 0.429 *
	Associate degree	9	20.0	8	17.8	p= .839
	Bachelor's	25	55.6	28	62.2	
Social security	Yes	33	73.3	38	84.4	χ2= 1.668 *
	No	12	26.7	7	15.6	p= 0.302
Smoking status	No	30	66.7	24	53.3	χ2= 1.667 *
	Yes	15	33.3	21	46.7	p= 0.282
Alcohol use status	No	39	86.7	33	73.3	χ2= 2.501*
	Yes	6	13.3	12	26.7	p= .114
Income level	Income less than expense	14	31.1	18	40.0	χ2= 2.247 *
	Income equals expense	17	37.8	19	42.2	p= .315
	Income more than expenses	14	31.1	8	17.8	
Regular exercise status	Yes	14	31.1	8	17.8	χ2= 2.166 *
	No	31	68.9	37	82.2	p= .220
Previous experience of testicular cancer	Yes	29	64.4	21	46.7	χ2= 2.880 *
		16	35.6	24	53.3	p= .137

*Chi-square test   EG: Experimental Group CG: Control Group

Experimental Group Benefit Score Averages were Examined;

It was observed that the mean scores of the individuals in the EG for the Perceived Benefit sub-dimension increased in the mid-test and post-test (*p*<.05) (Table 5)

Control Group Benefit Score Averages were Examined;

It was determined that there was no significant increase in the mean scores of the Perceived Benefit sub-dimension for the individuals in the control group in the mid-test and post-test (*p*>.05) (Table 5).

Pre-Test Barriers Scores of the Individuals were Examined;

It was determined that the pre-test mean scores of the two groups in the Perceived Barriers sub-dimension were not statistically significant (*p*>.05) (Table 6).

Mid-Test Barriers Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the mid-test Perceived Barriers sub-dimension was statistically significant (*p*<.05) (Table 6).

Post-Test Barriers Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the post-test Perceived Barriers sub-dimension was statistically significant (*p*<.05) (Table 6).

Experimental Group Barriers Score Averages Were Examined;

It was observed that the mean scores of the individuals in the EG for the Perceived Barriers sub-dimension increased in the mid-test and post-test (*p*<.05) (Table 6).

Control Group Barriers Score Averages Were Examined;

It was determined that there was no significant increase in the mean scores of the Perceived Barriers sub-dimension of the individuals in the control group in the mid-test and post-test (*p*>.05) (Table 6).

Pre-Test Self-Efficacy Scores of the Individuals Were Examined;

It was determined that the pre-test mean scores of the two groups in the Self-Efficacy sub-dimension were not statistically significant (*p*>.05) (Table 7).

Mid-Test Self-Efficacy Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the mid-test Self-Efficacy sub-dimension was statistically significant (*p*<.05) (Table 7).

Table 2. Pre-mid-post Test Intra-Group and Inter-Group CHBMS Scores of Participants in EG and CG (N=90)		
CHBMS Components and Sub-Dimensions	EG Score Average (Min-Max)	CG Score Average (Min-Max)
Perceived Sensitivity Pre-Test	9.55±3.51 (5-17)	10.24±4.66 (5-25)
Perceived Sensitivity Mid-Test	12.28±4.14 (5-25)	9.44±4.12 (5-19)
Perceived Sensitivity Post-Test	12.73±3.85 (5-21)	10.75±3.97 (5-22)
Perceived Seriousness Pre-Test	21.75±7.43 (7-33)	21.13±7.08 (7-35)
Perceived Seriousness Mid-Test	25.91±5.31 (11-35)	21.66±7.90 (7-35)
Perceived Seriousness Post-Test	25.71±4.54 (11-33)	22.60±6.72 (7-33)
Perceived Benefit Pre-Test	10.08±3.50 (3-15)	10.68±3.44 (3-15)
Perceived Benefit Mid-Test	12.53±2.98 (3-15)	9.55±3.27 (3-15)
Perceived Benefit Post-Test	13.02±2.86 (3-15)	9.88±3.10 (3-15)
Perceived Barriers Pre-Test	11.40±4.56 (5-24)	10.35±4.39 (5-20)
Perceived Barriers Mid-Test	8.82±3.04 (5-17)	11.11±4.55 (5-23)
Perceived Barriers Post-Test	9.26±3.89 (5-19)	12.20±3.88 (5-22)
Self-Efficacy Pre-Test	15.82±6.12 (6-29)	17.88±6.54 (6-30)
Self-Efficacy Mid-Test	23.66±6.15 (8-30)	17.55±6.36 (6-30)
Self-Efficacy Post-Test	24.55±6.20 (6-30)	15.57±5.64 (6-30)

CHBMS: Champion's Health Belief Model Scale EG: Experimental Group CG: Control Group

Post-Test Self-Efficacy Scores of the Individuals Were Examined;

It was determined that the difference between the scores of the individuals in the post-test Self-Efficacy sub-dimension was statistically significant ($p<.05$) (Table 7).

Experimental Group Self-Efficacy Score Averages Were Examined;

It was observed that the mean scores of the individuals in the EG for the Self-Efficacy sub-dimension increased in the mid-test and post-test ($p<.05$) (Table 7).

Table 3. Comparison of pre-mid-post test intra-group and inter-group perceived sensitivity sub-dimension scores of participants in EG and CG (N=90)			
Sensitivity Score	EG (n=45)	CG (n=45)	Test and p value
	X±SS	X±SS	
Pre-test (1)	9.55±3.51	10.24±4.66	t=0.791** p=.431
Mid-Test (2)	12.28±4.14	9.44±4.12	t=3.261** **p=.002**
Post-Test (3)	12.73±3.85	10.75±3.97	t=2.394** **p=.019**
Test and p value	F=8.882* **p=.001** Mauchly's W= 0.866[+] 1<2, 1<3	F=1.194* p=.308 Mauchly's W= 0.995[++]	

(1= Experimental Group (EG), 2= Control Group (CG))
*Repeated Measures ANOVA Test, **Independent Samples t test
[+]Greenhouse-Geisser. [++] Sphericity Assumed

Table 4. Comparison of pre-mid-post test intra-group and inter-group perceived seriousness sub-dimension scores of participants in EG and CG (N=90)			
Seriousness Score	EG (n=45)	CG (n=45)	Test and p value
	X±SS	X±SS	
Pre-test (1)	21.75±7.43	21.13±7.08	t=0.406** p=.685
Mid- test (2)	25.91±5.31	21.66±7.90	t=2.989** **p=.004**
Post-test (3)	25.71±4.54	22.60±6.72	t=2.572** **p=.012**
Test and p value	F=7.092* **p=.003** Mauchly's W=0.824[+] 1<2, 1<3	F=0.501* p=0.608 Mauchly's W=0.942[++]	

(1= Experimental Group (EG), 2= Control Group (CG))
* Repeated Measures ANOVA Test, **Independent Samples t test
[+] Greenhouse-Geisser
[++] Sphericity Assumed

Control Group Self-Efficacy Score Averages were Examined;

It was determined that there was no significant increase in the mean scores of the Self-Efficacy sub-dimension for the individuals in the control group in the mid-test and post-test ($p>.05$) (Table 7).

Pre-Test Testicular Examination Status of the Individuals Were Examined;

Pre-test comparisons of the testicular examination status of individuals in the EG and CG were not statistically significant (*p*>.05) (Table 8).

Table 5.
Comparison of pre-mid-post test intra-group and inter-group perceived benefit sub-dimension scores of participants in EG and CG (N=90)

Benefit Score	EG (n=45)	CG (n=45)	Test and p value
	X±SS	X±SS	
Pre-test (1)	10.08±3.50	10.68±3.44	t=-0.820** *p*=.415
Mid-test (2)	12.53±2.98	9.55±3.27	t=4.507** ***p*=.001**
Post-test (3)	13.02±2.86	9.88±3.10	t=4.975** ***p*=.001**
Test and p value	F=11.067* ***p*=.001** Mauchly's W=0.989++ 1<2, 1<3	F=1.491* *p*=.231 Mauchly's W=0.951++	

(1= Experimental Group (EG), 2= Control Group (CG))
*Repeated Measures ANOVA Test,**Independent Samples t test
++Sphericity Assumed

Mid-Test Testicular Examination Status of the Individuals Were Examined;

Mid-test comparisons of individuals' testicular examination are statistically significant (*p*<.05) (Table 8). The number of individuals who performed testicular examination was significantly higher in the experimental group.

Post-Test Testicular Examination Status of the Individuals were Examined;

Post-test comparisons of individuals' testicular examination are statistically significant (*p*<.05) (Table 8). The number of individuals who performed testicular examination was significantly higher in the experimental group.

Experimental Group Testicular Examination Status Were Examined;

Pre-mid-post test percentage comparisons of individuals in EG are statistically significant (*p*<.05) (Table 8) According to the McNemar analysis performed, comparisons of pairwise dependent groups are also significant.

Table 6.
Comparison of pre-mid-post test intra-group and inter-group perceived barriers sub-dimension scores of participants in EG and CG (N=90)

Barriers Score	EG (n=45)	CG (n=45)	Test and p value
	X±SS	X±SS	
Pre-test (1)	11.40±4.56	10.35±4.39	t=1.106** *p*=.272
Mid-test (2)	8.82±3.04	11.11±4.55	t=-2.800** ***p*=.006**
Post-test (3)	9.26±3.89	12.20±3.88	t=-3.576** ***p*=.001**
Test and p value	F=5.388* ***p*=.006** Mauchly's W=0.956++ 1>2	F=2.227* *p*=.114 Mauchly's W=0.991++	

(1= Experimental Group (EG), 2= Control Group (CG))
*Repeated Measures ANOVA Test, **Independent Samples t test
++Sphericity Assumed

Control Group Testicular Examination Status were Examined;

It was determined that the pre-mid-post test percentage comparisons of the testicular examination status of individuals in the CG were not statistically significant (*p*>.05) (Table 8).

Table 7 Comparison of pre-mid-post test intra-group and inter-group self-efficacy sub-dimension scores of participants in EG and CG (N=90)

Self-Efficacy Score	EG (n=45)	CG (n=45)	Test and p value
	X±SS	X±SS	
Pre-test (1)	15.82±6.12	7.88±6.54	t=-1.547** *p*=.125
Mid-test (2)	23.66±6.15	17.55±6.36	t=4.630** ***p*=.001**
Post-test (3)	24.55±6.20	15.57±5.64	t=7.177** ***p*=.001**
Test and p value	F=27.761* ***p*=.001** Mauchly's W=0.942++ 1<2, 1<3	F=1.701* *p*=.188 Mauchly's W=0.928++	

(1= Experimental Group (EG), 2= Control Group (CG))
* Repeated Measures ANOVA Test, **Independent Samples t test
++ Sphericity Assumed

Discussion

Testicular cancer stands as a significant global public health concern, ranking foremost among the malignant tumor diseases prevalent among young men (Gürsoy et al., 2019). The literature emphasizes the recognition of testicular cancer, particularly in developed countries, and the direction of individuals towards specific screenings aimed at early detection to mitigate. While testicular cancer is infrequent across all age groups, it holds a pivotal role in the field of urooncology, emerging as the most prevalent cancer type among men aged 15 to 35. (Voyvoda et al., 2017).

The early diagnosis of cases involving malignant testicular tumors necessitates a crucial focus on guiding young individuals to become familiar with their bodies. This involves ensuring their active participation in screening procedures, motivating them to perform TSE, and integrating TSE into a consistent routine, thereby promoting the sustainability of RTSE. To cultivate positive health behaviors among individuals, it is essential to enhance their health literacy levels. In this context, healthcare professionals bear the responsibility of providing training to their clients through diverse health models (Uğurlu & Akgün, 2019).

Family health centers, as primary healthcare institutions, provide an optimal context for imparting education to individuals. Within this framework, family health centers assume a pivotal role as the initial point of engagement, facilitating the cultivation of health-conscious behaviors and preventive strategies. The dissemination of information concerning testicular cancer assumes particular significance, notably during the period of adolescent follow-ups at family health centers, where individuals can be sensitized to the importance of engaging in RTSE (Sağlan & Bilge, 2018).

Table 8.
Comparison of pre-mid-post test testicular examination of the participants in EG and CG (N=90)

Variables		EG (n=45)		CG (n=45)		Test and p value
		Number	%	Number	%	
Testicular Examination Status – Pre-test (1)	Yes	7	15.6	6	13.3	$\chi2= 0.090*$
	No	38	84.4	39	86.7	$p= .764$
Testicular Examination Status – Mid-test (2)	Yes	22	48.9	6	13.3	$\chi2= 13.272*$
	No	23	51.1	39	86.7	***p= .001***
Testicular Examination Status – Post-test (3)	Yes	34	81.0	8	22.9	$\chi2= 30.179*$
	No	11	19.0	37	77.1	***p= .001***
Test and p value		Q: 39.214** *p*= .001 Differences Between Tests: (1 ve 2), (1 ve 3), (2 ve 3)***		Q: 4.001** *p*= .135		

(1= Experimental Group (EG), 2= Control Group (CG))
* Chi-square test,   ** Cochran Q value,   ***McNemar Test

Complementing conventional healthcare establishments, online educational initiatives have emerged as a viable substitute for in-person instruction, serving the dual purpose of preventing testicular cancer and promoting early detection and intervention. The efficacy of online training is evident not only in the context of cancer awareness but also extends to diabetes management (Ramadas et al., 2018), tobacco addiction cessation (Swartz et al., 2006), and a spectrum of health-focused counseling and educational endeavors. An inherent advantage of online education lies in its capacity to facilitate interactive discourse between educators and learners, obviating communication barriers (Owen et al., 2005). Internet-driven pedagogical systems hold a pivotal position in health education, driven by their cost-efficient attributes, an attribute compounded by the persisting exigencies of the ongoing pandemic.

When devising strategies for health education, the incorporation of an auxiliary health model becomes an essential requisite. Health models provide a structured framework and program for educators, facilitating the impartation of precise information to learners, while also enabling the assessment of the educator's efficacy. Among the models employed to induce positive shifts in diverse health behaviors, the Health Belief Model assumes prominence. Upon perusal of extant literature, it becomes apparent that the Health Belief Model, conceived by Champion, has been instrumental in addressing testicular cancer, both in terms of its identification and its role in engendering health behavior modification among individuals (Ustundag, 2019).

This present study embarks on an exploration of preventive strategies and the cultivation of awareness vis-à-vis testicular cancer in the context of young adults. It further delves into their comprehension of TSE, alongside the notion of RTSE, beliefs, and associated practices. The investigation takes cognizance of the application of Champion's Health Belief Model, notably in an online training paradigm, aligning itself with corroborative findings drawn from prevailing scholarly literature.

Perceived Sensitivity Evaluation across CHBMS Sub-Dimensions

The assessment of individuals' perceived sensitivity within the CHBMS framework revealed a noteworthy trend. The average perceived sensitivity score exhibited a discernible increase from the pre-test to the post-test among participants in the training group, with the variance between scores proving statistically significant ($p < .05$) (Table 4.3).

A seminal randomized controlled trial conducted by Ma et al. involved 1450 women seeking assistance from 30 community-based healthcare organizations. Under the tutelage of the HBM, these participants underwent cervical cancer-related training. Notably, the training instilled a heightened sensitivity among the participants toward regular engagement in cervical cancer screenings (Ma et al., 2013).

Further exemplifying the impact of education on perceived sensitivity, Capik and Gozum orchestrated an internet-supported study concentrating on individuals' knowledge levels and health beliefs regarding prostate cancer screening. The study illuminated a significant surge in perceived sensitivity concerning prostate cancer following the intervention (Çapık & Gözüm, 2012).

In a comprehensive exploration by Akar and Bebis in 2014, involving 96 patient care personnel split into two groups, interactive training was administered to one cohort, while the other received only introductory brochures. The outcome elucidated a notable elevation in the average score for the group exposed to interactive training—a facet centered on testicular cancer knowledge and health beliefs encompassing testicular self-examination (Akar & Bebiş, 2014). Notably, a heightened sensitivity to testicular self-examination was observed among the group that received comprehensive training.

Consonant with these findings, extant literature reflects a recurring theme wherein interventions tailored for the surveyed subjects invariably augment their perceived sensitivity. This recurrent theme is notably echoed in the works of Avci and Gozum (Avci & Gozum, 2009), Kilic and Erci (Kılıç & Erci, 2010).

Augmented perceived sensitivity notably escalates the likelihood of manifesting desired positive behaviors (Gözüm & Çapık, 2014). In alignment with this significant finding, the outcomes of this study substantiate that online education notably enhanced individuals' perceived sensitivity levels.

Perceived Seriousness Assessment across CHBMS Sub-Dimensions

In delving into the individuals' perceived seriousness within the CHBMS framework, a discernible trend emerges. The mean perceived seriousness score exhibited an observable elevation from the pre-test to the post-test among participants in the education group, with the variance in scores evincing statistical significance ($p < .05$) (Table 4.4).

An illustrative example of the transformative power of health education stems from the randomized controlled study by Plawecki and Chapman-Novakofski, which sought to enhance bone health beliefs among elderly individuals. The program, guided by the HBM and bolstered by informational brochures, facilitated noteworthy changes. The intervention fostered augmented calcium intake and substantial shifts in perceived severity, evident across the dimensions of the health belief model (Plawecki & Chapman-Novakofski, 2013).

In a comparable vein, the randomized controlled study by Khoramabadi et al., encompassing 130 expectant women in Iran, focused on elevating nutritional health beliefs during pregnancy. The results revealed positive increments in severity and perceived benefit scores related to pregnancy, attributing the shifts to the educational intervention (Khoramabadi et al., 2016).

Parallel outcomes are mirrored in the investigations undertaken by Champion and Archer and Hayter (Archer & Hayter, 2006). Furthermore, the modality of education employed can be posited as being accessible, cost-effective, and straightforward, thereby contributing to the favorable impact on individuals' perceptions of seriousness.

Perceived Benefit Analysis within CHBMS Sub-Dimensions

Turning to the exploration of perceived benefit within the CHBMS framework, the analysis unveils a salient pattern. The mean perceived benefit score experienced a palpable augmentation from the pre-test to the post-test within the education group, and the disparities in scores were of statistical significance ($p < .05$) (Table 4.5).

Exemplifying the potency of health education, Capik and Gozum orchestrated a study centered on enhancing knowledge regarding prostate cancer and cultivating health beliefs regarding early diagnosis. Guided by the HBM, training was extended to the experimental group,

supplemented by online counseling. The discernible outcome materialized in the internalization of the benefits of PSA testing in prostate cancer prevention, with trained individuals undergoing PSA measurements a remarkable 65 times more frequently (Çapık & Gözüm, 2012).

Similarly, a study by Sadeghi et al. assessed health beliefs among women to thwart urinary infections during pregnancy. The intervention, guided by the Health Belief Model, culminated in post-training tests conducted one month later. The results illuminated a decrease in infections attributed to changes in dietary, clothing, and urinary habits. Evidently, the training enhanced the women's perception of benefit (Sadeghi et al., 2012).

Perceived Barriers Examination within CHBMS Sub-Dimensions

Scrutinizing the individuals' perceived barriers encompassed by the CHBMS, a notable trend emerges. The mean perceived barriers score showed a remarkable decrease from pretest to posttest in the training group and the difference between the scores was statistically significant ($p < .05$) (Table 4.6).

Illustrating the efficacy of health education, the study by Pirzadeh and Mazaheri, which encompassed married women hitherto unacquainted with pap smear tests seeking assistance from two health institutions, stands out. The intervention, anchored in the HBM, unraveled the barriers rooted in fear and embarrassment associated with pap smear tests. Furthermore, an augmentation in the perception of benefit was observed among these women (Pirzadeh & Mazaheri, 2012).

A consonant theme resonates through other studies within the literature domain, wherein HBM-guided interventions were administered. These studies collectively ascertain a decline in participants' perceived barriers subsequent to the training interventions (Çapık & Gözüm, 2012; Martinez et al., 2016).

The adult individuals comprising the study cohort are mandated to assimilate knowledge pertaining to testicular cancer and embrace preventive measures and early diagnostic practices throughout their lifespan. Preceding the educational endeavor, individuals gauge the favorable and unfavorable dimensions of health behavior, making decisions concerning participation in education and the subsequent application of imparted knowledge. Overcoming barriers, such as lack of familiarity with one's own body, feelings of embarrassment, fear, or unfamiliarity with TSE, forms a pivotal juncture in these considerations. Within this study, it is surmised that the participants' perceived barriers are mitigated through the presentation

of solutions aligned with the HBM's principles. This entails incentivizing the adoption of appropriate examinations, elucidating the substantial potential for successful treatment, and adroitly addressing barriers intrinsic to health behaviors.

Perceived Self-Efficacy Examination within CHBMS Sub-Dimensions

An exploration into individuals' self-efficacy encapsulated by the CHBMS reveals a noteworthy trend. The mean self-efficacy score exhibited a discernible increase from the pre-test to the post-test among participants in the education group, with the discrepancies in scores attaining statistical significance ($p < .05$) (Table 4.7).

Exemplifying the transformative potential of health education, the randomized controlled study by Christy et al., encompassing 693 colorectal cancer patients, serves as a testament. Within this study, the experimental group was subjected to computer-aided training guided by the HBM. The intervention, underpinned by HBM principles, precipitated a 1.75-fold increase in knowledge about colorectal cancer compared to the non-trained group. Moreover, the trained group exhibited a 1.73-fold enhancement in self-efficacy and greater willingness to engage in screening practices. Consistent with the findings of other literature, interventions underscored by the Health Belief Model consistently elicit heightened self-efficacy perceptions among participants (Christy et al., 2013).

Notably, self-efficacy corresponds to an individual's belief in their capacity to execute a particular behavior (Gözüm & Çapık, 2014). In consonance with our study's findings, the participants' perceptions of sensitivity, seriousness, benefit, and self-efficacy exhibit positive elevation post-education, while barriers to health behavior experiences a commensurate reduction.

Examination of Individuals' Testicular Self-Examination Behavior

The analysis of individuals' engagement in testicular self-examination revealed a noteworthy pattern. Within the training group, the number of individuals performing testicular examinations registered a significant increase from the pretest to the post-test ($p < .05$) (Table 4.8).

Within the literature, several investigations have concluded that health education conducted under the auspices of the HBM yields not only positive impacts on individuals' health beliefs but also on their behavioral patterns (Avci & Gozum, 2009; Khoramabadi et al., 2016; Kılıç & Erci, 2010; Sadeghi et al., 2012).

While diverse computer-assisted educational programs,

particularly web-based approaches, have been employed in various contexts documented in the literature, a notable gap exists in the evaluation of health beliefs among individuals who received online training in the context of testicular cancer (Altıntaş & Vural, 2018; Mumcu & İnkaya, 2020). Our research, in contrast, fills this void by substantiating the viability of online education in health promotion. This contribution underscores the originality inherent in our study's design.

Limitation of the study

The scope of this study was confined to a single province, thus constraining the generalizability of its findings to a broader population.

Conclusion and Recommendations

Consonant with these findings, the adoption of online education as an alternative avenue to traditional face-to-face pedagogy for promoting testicular self-examination presents promising prospects. This online modality not only equips individuals with the capacity to avert testicular cancer and facilitate early detection but also amplifies the accessibility to educational benefits. Given this trajectory, it is judicious, contingent upon feasibility, for public health nurses to broaden the dissemination of such online educational initiatives across a wider spectrum of young adult recipients. As the strategic orchestration of educational interventions advances, it is strongly advised to formulate training programs underpinned by the foundational principles of the Health Belief Model. This approach stands as an earnest recommendation to optimize the efficacy and impact of health education initiatives aimed at fostering proactive health behaviors and beliefs within the context of testicular cancer awareness and prevention.

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Genişletilmiş Özet

Testislerdeki hücrelerin zamanla mutasyona uğraması veya anormalleşmesi, kontrolsüz büyümesi ve gelişmesi sonucunda testis kanseri meydana gelmektedir. Genç erişkin bireylerde yüksek prevelansa sahip testis tümörleri, ürogenital sistemde görülen tümörlerinin yaklaşık %24'ünü oluşturmaktadır.

Testis kanseri; 15-35 yaş arasındaki erkeklerde görülen, kendi kendine muayene ile erken dönemde saptanabilen bir kanser türü olduğu için bu yaş grubunun önemsenmesi gerekmektedir. Erkeklerin testis kanserine yakalanma oranı, yaşamları boyunca %0.2'dir. Ayrıca erkeklerin testis tümörü nedeni ile mortalite oranları 1950'li yıllarda %50 civarında iken günümüzde bu oran %10'un altındadır. Geriye dönük bakıldığında son 20 yılda testis kanseri görülme sıklığında %50'lik bir artışın olduğu görülmektedir. ABD'de her yıl ortalama 8000, İngiltere'de ise 1400 yeni testis kanseri vakası bildirilmektedir. Ülkemizde görülme sıklığı %1.3 düzeyinde olmakla birlikte, özellikle 15-24 yaş grubundaki erkeklerde görülen kanser türleri arasında ilk sırada iken, 25-49 yaş arası erkeklerde 4. sırada yer almaktadır.

Sağlık İnanç Modeli (SİM), bireylerin sağlık davranışlarını, tutum, inanç ve değerlerini etkileyerek, bireyin daha sağlıklı bir yaşam sürmesine fayda sağlamaktadır. Barnes tarafından geliştirilen, Testis Kanseri Taramalarına Yönelik Sağlık İnanç Modeli literatürde kullanılmış ve katılımcılara verilen farklı eğitimler sonucunda önemli davranış ve tutum değişikliklerinin olduğu görülmüştür.Birçok hastalığın teşhis ve tedavisinde olduğu gibi kanserde de erken tanı oldukça önemlidir. Bu amaçla Sağlık Bakanlığı kansere yönelik eğitim verme ve farkındalığı artırmak amaçlı KETEM'i (kanser erken teşhis, tarama ve eğitim merkezi) kurmuştur. KETEM, kanser ile ilgili farkındalığı artırmak ve sağlıklı davranışlara yönlendirmek amacıyla eğitimler planlamakta ve yürütmektedir. Testis kanserinde erken tanı ile hastalığın metastazı önlenebilmektedir. Testis kanserinde erken tanı ve tedavideki en uygun yol KKTM yapmaktır. KKTM öğretildiği takdirde yaygınlaştırılması ve uygulanması çok kolay bir yoldur. KKTM'yi doğru şekilde yapmak için KKTM eğitimleri düzenlenmelidir. Halk sağlığı hemşiresi, gençlerin bu konuda sağlık okuryazarlık düzeylerini artırma, bilinçlendirme ve davranış değiştirme amacıyla KKTM eğitimi verme konusunda yetkindir. Danışmanlık ve destekleyici rolleri ile hemşireler KKTM ve testis kanserine yönelik merak edilenleri cevaplamalı ve destek sağlamalıdır. Hemşireler davranış kazanma ve KKTM uygulama konusunda rehber rolü üstlenmelidir. Bireylere sağlık davranışını kazandırmada kullanılan hemşirelik modelleri, sağlık uygulamalarının, eğitiminin, araştırmalarının ve yönetiminin temel kavramsal çatısını oluşturmaktadır. Araştırma süreci aşamaları ve hemşireliğe ilişkin bilgiler arasındaki ilişkinin birleştirilmesinde modeller önemli rol oynamaktadır. Modeller, girişimlerin geliştirilmesi ve araştırma sonuçlarının bilimsel bir düzende açıklanmasını sağlamaktadır. Modeller, bir davranışa yön veren faktörlerin bütün içinde görülmesini ve belirlenen amaca ulaşmak için izlencenin belirlenmesine olanak sağlar. Ayrıca modeller, hemşirelerin geleneksel rolü olan bakım vermede hemşirelik bakım süreçlerinde yer alan verilerin analizi ve sentezini sağlamaktadır. Yapılacak araştırmalarda modellerin kullanılması, hemşirelerin yapması gereken uygulamalarda ve girişimlerde tıbbi uygulamalara değil, hemşireliğe özgü uygulamalara yönelmesine de katkı sağlamaktadır.Çalışmanın yapılabilmesi için ilgili merkeze gidilerek görevli personelin de desteğiyle bireylerin başvurduğu birime ulaşılmış, pandemi kurallarına dikkat edilerek araştırma hakkında bilgilendirme yapıldıktan sonra bireylerle ön testi uygulamak üzere görüşmeler yapılmıştır. Ön test, pandemi koşullarına uygun olarak araştırmacı ve katılımcıyı olumsuz etkilemeyecek biçimde yüz yüze uygulanmıştır. Verilerin toplanmasında her iki gruba da "Tanıtıcı Bilgi Formu, "Testis Kanseri Taramalarında Champion'un Sağlık İnanç Modeli Ölçeği (CSİMÖ)" uygulanmıştır. Bir birey için anketi doldurması yaklaşık 5-10 dakika sürmüştür.

Online eğitim grubundaki kişilere, önceden hazırlanan ve deney grubundaki bireylere tanıtılan, online platform aracılığıyla eğitim 3 ayı kapsayacak şekilde, her eğitim arasında 2 hafta boşluk bırakılarak toplamda 6 defa eğitim verilmiştir. Çalışma boyunca, kontrol grubuna herhangi bir girişimde bulunulmamıştır. Eğitimlerin hemen sonrasında google form aracılığıyla hazırlanan "Testis Kanseri Taramalarında Champion'un Sağlık İnanç Modeli Ölçeği (CSİMÖ)" anket formu her iki grupla paylaşılmış ve ara test verileri toplanmıştır. Eğitimler bittikten sonra 3. ayın sonunda google form aracılığıyla hazırlanan "Testis Kanseri Taramalarında Champion'un Sağlık İnanç Modeli Ölçeği (CSİMÖ)" anket formu her iki grupla paylaşılmış ve son test verileri toplanmıştır. Araştırmacı tarafından hazırlanan eğitim programı; üç ayı kapsayacak şekilde, hazırlanan online platform aracılığıyla, her eğitim haftasını 3 güne ayırarak 15'er kişilik gruplar halinde deney grubuna uygulanmıştır. Eğitim programındaki her ders ortalama 40 dakika sürmüştür. Her eğitim sonrası bireylerden feedback alınmış, soruları cevaplanmıştır.Araştırmaya başlamadan önce, Ağrı İbrahim Çeçen Üniversitesi Etik Kurul Başkanlığı'ndan onay (Tarih: 28.04.2021, numara:125), araştırmanın yapılacağı kurumdan ve araştırmada kullanılan ölçeğin yazarlarından yazılı izin alınmıştır. Deney ve kontrol grubundaki bireylerin

sosyodemografik özelliklerinin homojen olduğu saptanmıştır (p>0.05). Testis kanseri Sağlık İnanç Modeli'ne göre verilen eğitim sonrasında bireylerin testis kanserine yönelik inançlarında ve davranışlarında olumlu yönde değişim sağlanmış; algılanan duyarlılık, ciddiyet, yarar ve öz etkililik alt boyutlarında anlamlı düzeyde artış ve engel algısı alt boyutunda ise azalma olduğu saptanmıştır (p<0.05). Çalışma, bireylere online eğitim verilmesinin testis kanserine ilişkin sağlık inançları üzerinde olumlu bir etki yarattığını ortaya koymuştur. Bu araştırma, Türkiye'deki genç yetişkin erkeklerin testis kanserine ilişkin sağlık inançlarını ve erken tanı uygulamalarını ele alan sınırlı literatürü zenginleştirmektedir. Bu önemli sağlık sorunuyla ilgili farkındalığı artırmada ve proaktif katılımı teşvik etmede çevrimiçi platformların etkinliğinin altını çizmektedir.