

Investigation of the Effects of Postgraduate Education for HIV/AIDS on Physician Awareness

HIV/AIDS için Verilen Mezuniyet Sonrası Eğitimin Hekim Farkındalığı Üzerine Etkilerinin Araştırılması

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ABSTRACT

Objective: Postgraduate education (PE) designed to improve health professionals' knowledge and awareness of HIV/AIDS has a positive impact on the provision of health services for people living with HIV. This study aimed to examine the effects of HIV/AIDS education on physician behavior.

Materials and Methods: All doctors at Sakarya Training and Research Hospital invited to a one-day HIV/AIDS training on March 22, 2023. The training, which began with a pretest, lasted approximately 70 minutes, and after the training, a posttest was administered to the participants.

Results: In total, 81 physicians participated in our research, showing that short-term training has positive effects on the knowledge level of healthcare professionals about HIV/AIDS. Regarding recognizing signs and symptoms of HIV infection, the mean score before training was 6.02 ± 1.94 , while the mean score after training was 8.65 ± 1.26 ($p < 0.05$). The mean level of knowledge regarding treatment success and life expectancy before and after training were 7.79 ± 2 , and 9.38 ± 1.17 , respectively ($p < 0.05$).

Conclusions: PE can bring about positive changes in the attitudes and behaviors of healthcare professionals. The effectiveness of these trainings in raising HIV awareness is essential in breaking down false beliefs, developing positive communication skills, and providing healthcare services to patients.

Keywords: Awareness, HIV, postgraduate education

ÖZ

Amaç: HIV/AIDS konusunda sağlık çalışanlarının bilgi ve farkındalık düzeyini artırmak amacıyla verilen mezuniyet sonrası eğitimler (MSE), HIV ile yaşayan bireylere sağlık hizmet sunumunu olumlu etkilemektedir. Bu çalışmada HIV/AIDS konusunda verilen eğitimin hekim davranışlarına etkisinin araştırılması amaçlanmıştır.

Materyal ve Metot: Sakarya Eğitim ve Araştırma Hastanesi'nde çalışan tüm hekimler 22 Mart 2023 tarihinde bir günlük HIV/AIDS eğitimine davet edildi. Ön test ile başlayan eğitim, yaklaşık 70 dakika sürmüştü ve eğitim sonrası katılımcılara son test uygulanmıştır.

Bulgular: Araştırmamıza toplam 81 hekim katılmış olup, kısa süreli eğitimlerin sağlık çalışanlarının HIV/AIDS konusundaki bilgi düzeyinde olumlu etkiler sağladığını göstermektedir. HIV enfeksiyonu belirti ve bulgularını tanıma açısından eğitim öncesi ortalama puan $6,02 \pm 1,94$ iken eğitim sonrası ortalama $8,65 \pm 1,26$ ($p < 0,05$) idi. Tedavi başarısı ve beklenen yaşam süresi ile ilgili bilgi puan ortalaması eğitim öncesi ve sonrası sırasıyla $7,79 \pm 2$ ve $9,38 \pm 1,17$ ($p < 0,05$) idi.

Sonuç: MSE sağlık çalışanlarının tutum ve davranışlarında olumlu değişikliklere neden olabilmektedir. Bu eğitimlerin HIV bilincini artırma konusundaki etkinliği, yanlış inançların azaltılması, olumlu iletişim becerilerinin geliştirilmesi ve hastalara sağlık hizmeti sunumu için önem arz etmektedir.

Anahtar Kelimeler: Farkındalık, HIV, mezuniyet sonrası eğitim

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INTRODUCTION

The human immunodeficiency virus / acquired immunodeficiency syndrome (HIV/AIDS) pandemic is a major health problem worldwide.¹ Healthcare professionals providing healthcare to these patients must update information and awareness about the disease to protect the health of the patient and the community.² The prejudice against the disease among healthcare professionals involved in the management of HIV/AIDS is a significant problem. Discriminatory behavior in service delivery is a significant barrier to individuals with HIV/AIDS accessing treatment.³ Concern about being discriminated against reduces the likelihood of individuals living with HIV applying to treatment institutions and negatively affects the patient's self-confidence.⁴ Healthcare professionals need to have accurate information about HIV/AIDS.

Various studies conducted in our country have revealed that healthcare professionals generally need postgraduate education (PE) on HIV/AIDS.⁵⁻⁷

There is evidence that postgraduate short-term HIV/AIDS training can be very useful in dealing with this problem. Short-term training provides healthcare professionals with the basic knowledge they need about HIV/AIDS, helping patients to receive the proper counselling. These trainings make healthcare professionals more aware of HIV/AIDS by explaining how it is transmitted, how it should be prevented, and how it is treated. In addition, there have been significant developments regarding the disease in the last 10 years. For example, the use of pre-exposure prophylaxis (PREP), which has been implemented since 2015, is of great importance in preventing the disease. However, it is natural that physicians who graduated before 2015 and work in different disciplines are unaware of these developments. New developments that emerge in the field and are critically important in preventing disease can be conveyed to healthcare professionals through PE.

Prejudice and discriminatory attitudes among healthcare professionals may lead to treatment rejection among individuals with HIV/AIDS.³ The risk of transmission for patients receiving adequate treatment is reduced to deficient levels. Today, it is well known that "undetectable = untransmittable" is very valuable for public health in individuals with HIV/AIDS receiving appropriate treatment.

In the absence of such information, stigma and discrimination against individuals with HIV/AIDS may persist, which may limit patients' access to healthcare services and negatively affect treatments. Therefore, appropriate measures to educate and raise awareness of healthcare professionals play a critical role in reducing the effects of the disease and protecting and promoting health. The focus of this study

is to examine the benefits of short-term HIV/AIDS PE for physicians working in tertiary hospitals.

MATERIALS AND METHODS

Ethics Approval: Ethical approval for the study was obtained from the Sakarya University Medical Faculty Non-Interventional Ethics Committee. (31.10.2023 date, and E-71522473-050.01.04-300108-316 number)

Participants: All physicians working at the Sakarya University Training and Research Hospital (SAUTRH) are invited to the study.

Educational Intervention: The research is an educational intervention study in which participant scores are compared before and after the education on HIV / AIDS. On March 22, 2023, a PE conference titled "Approach to Individuals Living with HIV and Recognizing Infection" was organized in the central conference hall of the SAUTRH. A pretest was conducted by researchers before the training. The participants were provided with training that included current basic information about HIV/AIDS. In this training, HIV/AIDS transmission routes, monitoring and treatment methods, and U=U (Undetectable=Untransmittable) information were conveyed. The training duration was 70 minutes.

Survey: Before and after the conference, a five-stage Likert-type scale was applied to all participants to evaluate HIV awareness and approach and to measure participant knowledge and attitudes. All questions were asked to the participants in a way that they could fill out from their mobile phones, and the participants filled out the survey anonymously without specifying their name, surname, phone number, and e-mail address.

Pre- and Post-tests: The pretest and posttest results were recorded online for easy data analysis and comparison. The pretest was administered before the conference and measured the participants' initial knowledge and attitudes. The posttest was administered after the conference to assess the participants' post-conference knowledge and attitudes.

Statistical Analysis: Likert-type scores provided by participants has been used as statistical values. Descriptive statistics were presented as frequency tables, mean \pm STD-Standard Deviation values. Student t-test was used for the comparative analysis of the scores before and after the training; the statistical significance value was determined as $p < 0.05$, and the statistical study was carried out with statistical modules in MS Office 365 Excel program version 2407 / 16.0.17830.20166.

RESULTS

A total of 81 physicians participated in our research. When pre- and post-training scores were analyzed, a

statistically significant increase in recognizing signs and symptoms associated with HIV infection was observed. Regarding recognizing the signs and symptoms of HIV infection, the mean before the training was 6.02±1.94, while after the training the mean was 8.65±1.26 (p < 0.05). The mean knowledge of treatment success and life expectancy was 7.79±2.00 before the training and 9.38±1.17 after the training (p <0.05).

There was no significant change in the patient's willingness to consult an Infectious Diseases specialist for testing when HIV infection was suspected. In the case of wanting to take the individual initiative in requesting HIV-related testing, no statistically significant difference was found before and after the training. A significant statistical increase has been observed in the knowledge of "individuals living

with HIV to achieve a healthy life span with current treatments." After the training, a significant positive change was observed in providing healthcare to people living with HIV who used their treatment regularly and who have undetectable virus levels. This reflects a safer attitude towards the possible risk of HIV transmission.

The t-test analysis results applied to the data set are shown in Table 1. According to the table data, there is a statistically significant positive increase for four statements and a statistically significant positive decrease for one statement. The differences for the other six statements are not statistically significant. How the Likert mean scores of the participant statements change with the training is shown in Figure 1.

Table 1. Changes in Likert score averages of different expressions before and after the training and statistical significance values.

Expression	Before training Mean±SD	After training Mean±SD	t-Test	p-value
I recognize most of the signs and symptoms associated with HIV infection.	6.02 ± 1.94	8.65 ± 1.26	-8.88	0.05*
When I suspect HIV infection, I would like the patient to be referred to an infectious disease specialist for testing.	7.82 ± 2.81	7.55 ± 3.34	0.16	0.05
When I suspect HIV infection, I ask the patient for an HIV test myself.	9.13 ± 1.74	9.13 ± 1.74	0.00	0.05
With current treatments, individuals living with HIV can achieve almost the same life expectancy and quality as healthy individuals.	7.79 ± 2.00	9.38 ± 1.17	-5.39	0.05*
A patient living with HIV and using their treatment regularly and whose blood level of the virus is undetectable is considered to be practically untransmutable	6.40 ± 2.84	9.55 ± 1.02	-8.19	0.05*
I do not hesitate to provide any healthcare services/interventional procedures to patients living with HIV and whose virus is undetectable in the blood with treatment.	5.84 ± 2.92	8.58 ± 2.09	-6.00	0.05*
Would you be worried about touching the sheets on which a person living with HIV is sleeping?	4.53 ± 3.15	2.63 ± 2.42	3.74	0.05*
Do you concern about receiving blood from someone living with HIV?	7.74 ± 2.59	5.50 ± 3.24	1.45	0.05
Would you concerned about performing dressing changes/minor surgery on someone living with HIV?	7.24 ± 2.86	5.22 ± 3.07	1.27	0.05
Would you be concerned about performing diagnostic or therapeutic interventions on someone living with HIV?	7.56 ± 2.6	5.50 ± 2.94	1.48	0.05
Do you worry about performing surgery on someone living with HIV?	7.97 ± 2.55	5.82 ± 2.97	1.55	0.05

*: In the analysis, the p-significance value was accepted as 0.05, and the difference in these expressions is statistically significant.

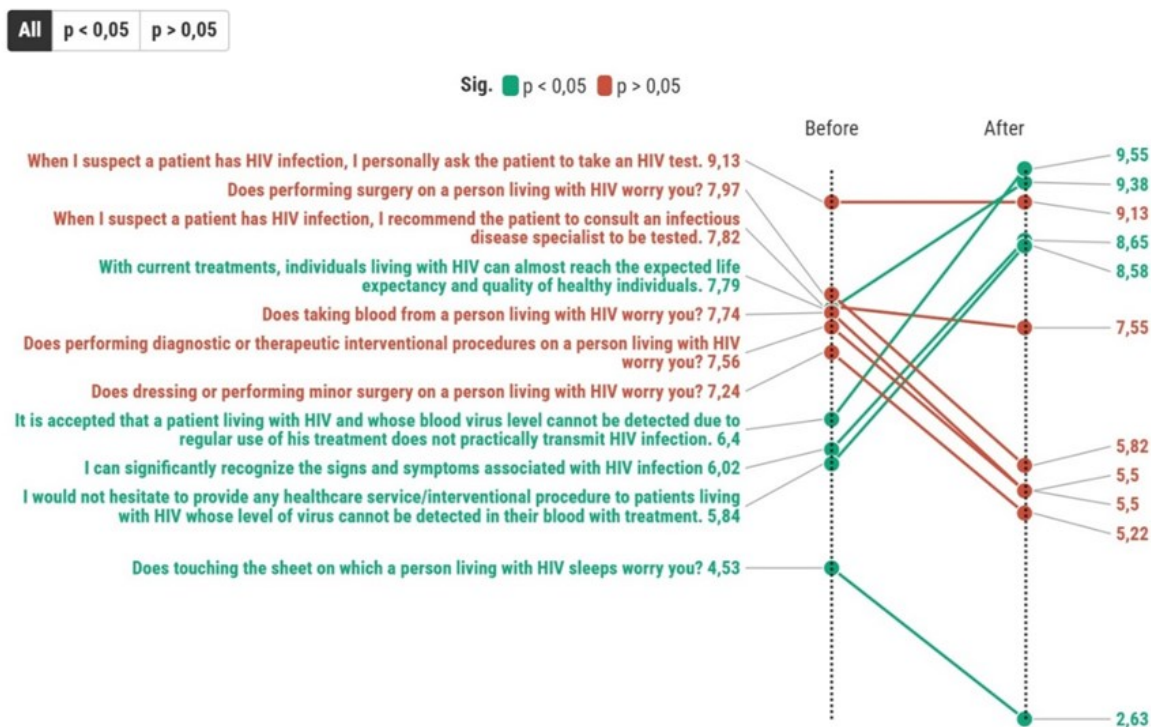


Figure 1. The change in the average Likert scores of the expressions with a statistically significant difference before and after the training given. (Likert min - max score: 1-10).

DISCUSSION AND CONCLUSION

In this study, a significant increase in the ability to recognize signs and symptoms associated with HIV infection was found after training. The fact that the mean score after PE was significantly higher than the pre-training score is significant for the early diagnosis and proper management of HIV infection.⁹ Early diagnosis of HIV infection can increase the patient's chances of having better health and reduce the risk of infecting others.⁸ There are many studies in the literature showing that similar training programs are effective in increasing the knowledge, attitudes and skills of health workers about HIV/AIDS.¹⁰ It has been suggested that such PE may increase the capacity of health workers to provide better service to their patients and help control HIV infection more effectively in the community.

Our results show that the training program has increased the participants' knowledge level in recognizing the signs and symptoms associated with HIV infection. The participants began to identify better the signs and symptoms associated with HIV infection. PE may help health professionals assess patients' conditions and make accurate diagnoses more effectively. The training has increased the participants' awareness of HIV infection. This allows them to communicate more empathetically and conscious-

ly with patients. It shows that the training program increased knowledge and understanding about HIV infection and increased the participants' competence in this area.

The knowledge that individuals living with HIV can achieve the same life expectancy and quality as healthy individuals with current treatments can lead to several positive outcomes for healthcare professionals. Healthcare professionals with a higher level of knowledge can provide their patients with more hope and motivation and increase patients' hopes for a positive future. Physicians with increased knowledge can provide better patient-physician communication.¹¹

Healthcare professionals should be aware that patients with HIV who consistently take their medication and have undetectable virus levels do not transmit the infection.¹² Correct counselling is one of the contributions of this information to the provision of health services. Healthcare professionals can reassure HIV-positive patients by providing them with accurate information. Patients can have healthier sexual relationships knowing that the risk of infecting their partners during sexual intercourse is low. Providing patients with up-to-date and accurate information increases treatment adherence. When they keep their viral load under control with regular treat-

ment, they remain loyal to their treatment, knowing that they do not pose a risk to society. With the reduction in the risk of HIV infection transmission, preventing new infections in society reduces health expenditures. In addition, healthcare professionals who learn that the treatment is not contagious exhibit a more positive attitude toward stigmatization.¹³

As a result of PE, people's anxiety towards people living with HIV decreases. This also develops more empathy and understanding towards HIV-positive individuals.¹⁴ Proper understanding of HIV transmission routes and raising public awareness are essential parts of supporting people living with HIV. The dissemination of such educational programs increases public support and cooperation.¹⁵

The most important limitation of our study is that it was conducted in a single center with few participants. If it could be done in a multicenter manner, our data would be stronger.

In conclusion, having up-to-date treatment information among healthcare professionals contributes to the positive interaction between individuals and society in the fight against HIV/AIDS. These results support the importance of training programs that can increase the ability of healthcare professionals to recognize HIV-related symptoms better. Such training should be implemented and updated for many healthcare professionals.

Ethics Committee Approval: Our study was approved by the Sakarya University Medical Faculty Non-Interventional Ethics Committee. (Date: 31.10.2023 date, decision no: E-71522473-050.01.04-300108-316)

Conflict of Interest: This study was conducted with the support of Gilead Sciences Türkiye.

Author Contributions: Concept – OK, AU, EG; Supervision – OK, AU; Materials – AU; Data Collection and/or Processing – OK, AU, EG; Analysis and/or Interpretation – OK, AU; Writing – OK, EG

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