

# The Level of Knowledge of Healthcare Workers, Excluding Physicians, Regarding HIV, and Their Approach to People Living with HIV

Ercan Yurttaşer<sup>1</sup>, Orkun Çaçur<sup>1</sup>, Onur Atakul<sup>1</sup>, Yasemin Görgülü<sup>1</sup>, Alperen Şirin<sup>1</sup>, Yeşim Yasin<sup>2</sup>

<sup>1</sup>Acıbadem Mehmet Ali Aydınlar University Faculty of Medicine, Istanbul, Turkey

<sup>2</sup>Acıbadem Mehmet Ali Aydınlar University, Faculty of Medicine, Department of Public Health, Istanbul, Turkey

Ercan Yurttaşer, Student Dr.  
Orkun Çaçur, Student Dr.  
Onur Atakul, Student Dr.  
Yasemin Görgülü, Student Dr.  
Alperen Şirin, Student Dr.  
Yeşim Yasin, Assist. Prof. Dr.

## Correspondence:

Student Dr. Ercan Yurttaşer  
Acıbadem Mehmet Ali Aydınlar University  
Faculty of Medicine, Istanbul, Turkey  
**Phone:** +90 531 522 05 40  
**E-mail:** ercan.yurttaser@live.acibadem.edu.tr

**Received :** July 19, 2018

**Revised :** January 07, 2019

**Accepted :** February 04, 2019

## ABSTRACT

Since its discovery, the Human Immunodeficiency Virus (HIV) continues to be a major health concern globally. Unofficial records show that over 14000 cases of HIV have been reported in Turkey, and this number is on the rise. People living with HIV (PLHIV) have become subjected to stigmatisation and discrimination all around the globe, including Turkey. This approach had a negative impact on PLHIV, especially in the healthcare industry. Previous studies, in Turkey and globally, have shown that healthcare workers lacked sufficient knowledge about HIV and PLHIV. Consequently, their approach to PLHIV was at times inappropriate and unequal. This study aimed to look at the level of knowledge of healthcare workers, excluding physicians, and their approach to PLHIV.

A survey based on a questionnaire was conducted in 3 private hospitals in Istanbul, Turkey. A total of 161 participants-of which 67 were nurses, 54 were receptionists, 16 were laboratory technicians, 13 were physiotherapists, and 11 were caregivers-took part in this study. The questionnaire consisted of 14 total questions, divided into three sections; 'Modes of HIV transmission', 'Protection from HIV transmission', and 'HIV in the workplace'.

On average, 41% of healthcare workers lacked sufficient knowledge regarding modes of HIV transmission, and 48% lacked sufficient knowledge regarding protection from transmission of HIV. Furthermore, 48% had a different approach to PLHIV compared to other patients.

Healthcare workers lack sufficient knowledge regarding HIV, and this reflects on their approach towards PLHIV. As a result of this stigmatisation, PLHIV are subjected to discriminative attitudes from the moment they set foot in a hospital environment. Therefore, educating healthcare workers about HIV is crucial to ensure that their approach to PLHIV is equal to that of other patients.

**Keywords:** HIV, hospital workers, stigmatisation

## HEKİMLER HARICİNDEKİ SAĞLIK ÇALIŞANLARININ HIV İLE İLGİLİ BİLGİ DÜZEYLERİ VE HIV İLE YAŞAYAN BİREYLERE YAKLAŞIMLARI ÖZET

Keşfedildiği günden beri, HIV virüsü insan ve toplum sağlığına olan etkisi nedeniyle global bir sorun teşkil etmektedir. Türkiye'de HIV ile yaşayan bireylerin sayısı her geçen yıl artmakla beraber, 2016 itibarıyla 14000'i geçmiştir. HIV ile yaşayan bireyler dünyanın geri kalanında olduğu gibi Türkiye'de de stigmatizasyon ve ayrımcılığa maruz kalmaktadırlar. Yapılan çalışmalarda özellikle sağlık sektöründe bu damgalamanın etkileri görülmektedir. Sağlık çalışanlarının bilgi düzeyleri yeterli olmamakla beraber, HIV ile yaşayan bireylere olan yaklaşımlarının diğer hastalarla aynı olmadığı gözlemlenmiştir. Bu çalışmanın amacı, hekimler haricindeki sağlık çalışanlarının HIV ile ilgili bilgi düzeyleri ve HIV ile yaşayan bireylere yaklaşımlarını araştırmaktır.

Bu çalışma, İstanbul'da yer alan üç özel hastanede anket olarak yapılmıştır. Çalışmada yer alan toplam 161 gönüllünün 67'si hemşire, 54'ü resepsiyonist, 16'sı laboratuvar teknisyeni, 13'ü fizyoterapist, ve 11'i de hasta bakıcıdır. On dört sorudan oluşan anket üç bölüme ayrılmıştır: HIV'in bulaşma yolları, HIV virüsünden korunma yöntemleri, ve hastanede HIV ile yaşayan bireylere yaklaşım.

Sağlık çalışanlarının %41'i HIV'in bulaşma yolları ile ilgili yeterli düzeyde bilgi sahibi değildi. Aynı zamanda, %48 oranında HIV virüsünden korunma yöntemleriyle ilgili bilgisizlik söz konusuydu, ve sağlık çalışanlarının %48'inin HIV ile yaşayan bireylere yaklaşımlarının diğer bireylere olan yaklaşımlarıyla aynı olmadığı görüldü.

Sağlık çalışanlarının HIV ile ilgili bilgi düzeyinin çok düşük olduğu görülmüştür. Bunun sonucunda, bu hastalara yaklaşımları da farklı olmakla beraber, maalesef sağlık çalışanları da HIV ile yaşayan bireylere yapılan damgalamaya katkıda bulunmaktadır. Bu sebeple HIV ile yaşayan bireyler hastaneye attıkları ilk adımdan itibaren ayrımcılığa maruz kalmaktadırlar. Bunun yarattığı psikolojik sonucu düşünürsek, HIV ile yaşayan bireyler sağlık alanında gerekli yardımı ve tedaviyi almaktan kaçınılabirler. Bu nedenle, tüm sağlık çalışanlarının HIV konusunda eğitim almaları onların bu hastalara olan yaklaşımlarını pozitif anlamda etkileyebilir.

**Anahtar sözcükler:** HIV, sağlık çalışanları, damgalama/stigma

Since its discovery in 1981, Human Immunodeficiency Virus has been one of the most thoroughly studied microorganisms in medicine. If untreated, it may progress, over the span of a few years, into Acquired Immunodeficiency Syndrome (AIDS). Since its discovery, HIV has been a major health concern in the world (1). A person is said to be living with HIV if they have contracted the HIV virus from any source (2).

The main routes of transmission of HIV are through bodily fluids, excluding saliva, and vertical transmission from mother to fetus. Thus, protection methods include the consistent use of condoms as a barrier during sexual intercourse or avoiding the sharing of needles. Antiretroviral chemoprophylaxis can be used to prevent vertical transmission (3–6).

According to the data in 2016, 36.7 million people are living with HIV globally, of which 25.6 million are in Africa (1). Furthermore, over 8000 people in Turkey were living with HIV by the year 2014, which was the last time an official number was published (2). Unlike some regions in the world that are seeing a decline in the rate of HIV diagnoses per year, Turkey is seeing a major increase in the rate of occurrence of HIV amongst its population (7). The first case of HIV in Turkey was diagnosed in 1985. Recently, however, it has seen a tremendous increase, reaching over 1000 new cases yearly (2).

After it was discovered that the main route of spread for HIV is through sexual intercourse, people who are living with HIV (PLHIV) have become subjects of stigmatisation and severe discrimination (8). This means that these people weren't provided with equal opportunities in healthcare, social life, and professional life, which was also apparent in Turkey (9). The major contributor to this in Turkey is the healthcare industry, which accounts for 33% the violation of rights and stigmatisation of PLHIV.

It has been hypothesized that the insufficient level of knowledge of hospital workers influences the discrimination and stigmatisation of PLHIV. This approach has been shown to lead to the avoidance of seeking healthcare by PLHIV (10,11). Studies conducted in Turkey and abroad have shown that there is indeed a lack of knowledge amongst nurses and physicians regarding HIV (12–15).

Yet, these patients do not only encounter doctors and nurses, but also may have to interact with receptionists, laboratory technicians, physiotherapists, and others,

which makes their interactions with PLHIV just as important. Studies thus far have failed to address this issue.

This study aims to lead the way in filling this gap and look at the level of knowledge of hospital workers, excluding doctors, regarding HIV, and their approach to PLHIV in order to raise awareness of this issue in Turkey.

## Methods

The Ethical Committee 'ATADEK' approved this research in March 2017. The ethical committee 'ATADEK' approved this study on 2nd of March 2017 (approval code: 2017–4/23).

The questionnaire was conducted in 3 separate private hospitals in Istanbul, Turkey, over the course of 3 days.

The questionnaire consisted of a total of 14 questions, all of which were closed-ended questions. Participants had to check the box for 'agree' or 'disagree' for each question. The questionnaire was divided into 3 parts, excluding demographic questions. The first part consisted of 4 questions regarding their knowledge of HIV transmission. The second part consisted of 5 questions that assessed their knowledge of protection methods from HIV transmission. Finally, the third section assessed their approach to PLHIV. The demographic questions that participants answered were their gender (male, female), age (18–24, 25–34, 35–44, 45–54, 55+), profession (nurse, receptionist, laboratory technician, physiotherapist, caregiver) and educational background (primary education, secondary education, undergraduate, graduate/PhD). The questions used for this study can be seen in Table 1.

The results obtained were analysed by looking at the total percentage of participants that agreed or disagreed to each question. In addition, the participants were divided into their individual professions, and their level of knowledge and their approach were then looked at.

## Results

A total of 161 participants took part in this study, of which 67 were nurses, 54 were receptionists, 16 were laboratory technicians, 13 were physiotherapists, and 11 were caregivers. The subjects of this questionnaire were volunteers chosen at random, and the questionnaire was conducted under the supervision of one of the researchers that took part in this study. Each participant was given 5 minutes to complete the questionnaire.

The first section of the questionnaire provided the following results. 25% of the participants believed that HIV could be transmitted through social contact such as hugging or shaking hands. Another 53% agreed that PLHIV should not share bathrooms with healthy individuals. In addition, this question was looked at individually amongst professions, and it was seen that 77% of physiotherapists, 61% of receptionists, and 45% of nurses agreed to this statement. Amongst the participants, 39% agreed that HIV could be transmitted through coughing and sneezing, and 48% agreed that its transmission is possible through sharing cutlery. Nearly half of the receptionists and physiotherapists agreed to the question regarding sharing cutlery, whereas only 18% of nurses believed this to be true.

The second part of the questionnaire consisted of questions regarding protection against HIV transmission. 90% of participants believed that condom usage is a method of protection from HIV transmission. Regarding vaccination, 54% agreed that a vaccine for HIV is in existence. Amongst those who agreed were 72% of receptionists and 62% of physiotherapists. On the other hand, nurses and lab technicians also approached 50%, as 49% and 44% agreed respectively. Having a single partner was seen as a method of protection by 73% of participants, and another 38% of participants agreed that being heterosexual was a method of protection from HIV. The final question in this section was regarding prophylactic treatment of pregnant women living with HIV to avoid vertical transmission, and 66% thought that this was not a valid method of protection. Amongst the individual professions, 54% of physiotherapists were ignorant of this method, whereas 69% of all the other occupational groups disagreed with prophylactic treatment being effective.

The third and final part of the questionnaire assessed the approach of these health care workers to PLHIV in the hospital environment. 45% of participants claimed that they do not mind being involved in the treatment of an HIV+ patient. Furthermore, the same percentage of participants also believed that it is better to separate the rooms of HIV+ patients and other patients. 43% of participants stated that they would prefer not to work in the same environment as PLHIV, and equally stated that they would not approach these people the same way they approach healthy people. Finally, 54% of participants agreed that they would prefer not to be involved in the treatment of an HIV+ patient. (Table 2).

**Table 1.** The questions used in this questionnaire, subdivided into three groups: HIV transmission, Protection from HIV transmission, and HIV in the workplace

#### Modes of HIV Transmission

- HIV can be transmitted through social interactions such as hugging/shaking hands
- HIV positive individuals can't share bathrooms with healthy people
- HIV can be transmitted through coughing and sneezing
- HIV can be transmitted through sharing cutlery

#### Protection from HIV Transmission

- Condoms can prevent HIV transmission
- Vaccination is a method of protection from HIV
- Having a single partner is a method of protection from HIV
- Heterosexual people are less likely to contract HIV
- Vertical transmission of HIV can be prevented through prophylactic treatment

#### HIV in the workplace

- I don't mind to be involved in the treatment of an HIV positive patient
- I don't mind working in the same area with an HIV positive person
- I prefer not to be involved in the treatment of an HIV patient
- I approach HIV positive patients the same way as other patients
- HIV+ patients should not share a room with non-HIV+ patients

**Table 2.** Overall results for all three sections of the questionnaire

	Agree (%)	Disagree (%)
<b>HIV Transmission</b>		
HIV can be transmitted through social interactions such as hugging/shaking hands	25	75
HIV positive individuals can't share bathrooms with healthy people	53	47
HIV can be transmitted through coughing and sneezing	39	61
HIV can be transmitted through sharing cutlery	48	52
<b>Protection from HIV Transmission</b>		
Condoms can prevent HIV transmission	90	10
Vaccination is a method of protection from HIV	54	46
Having a single partner is a method of protection from HIV	73	27
Heterosexual people are less likely to contract HIV	38	62
Vertical transmission of HIV can be prevented through prophylactic treatment	34	66
<b>HIV in the workplace</b>		
I don't mind being involved in the treatment of PLHIV	45	55
I don't mind working in the same area with PLHIV	57	43
I prefer not to be involved in the treatment of an HIV patient	54	46
I approach PLHIV the same way as other patients	57	43
PLHIV should not share a room with non-HIV+ patients	45	55

## Discussion

The number of HIV+ cases has seen a 465% increase over the 10-year period leading to 2016, exceeding 14000 cases (16–17). Consequently, hospital workers are encountering more HIV+ patients in the hospital environment, where they are subjected to rights violations and stigmatisation according to Positive Living Association's study (9).

In order to ensure that PLHIV can be diagnosed and treated better in hospitals, the level of knowledge and approach of hospital personnel is of vital importance. Lack of knowledge or ignorance may lead to stigmatisation and discrimination by healthcare workers towards PLHIV, and this may affect their access to treatment. Studies in India and Thailand have shown that HIV+ patients are likely to delay or avoid seeking medical treatment due to the attitude of hospital personnel towards them. It was also demonstrated that HIV-infected people who held their own prejudice towards their status were more likely to avoid hospital environments. In such instances, their stigmatisation by hospital workers adds to the problem. The overall wellbeing of HIV-infected patients who delay or avoid medical care has been impaired as indicated by these studies (10,11)

This study was conducted in three hospitals in Istanbul, Turkey. Comparing the results of this study to others conducted in Turkey, it is seen that the outcomes are similar (12,13). The level of knowledge of hospital workers regarding HIV was mostly insufficient. This lack of knowledge reflected on their approach to these patients, which wasn't the same way they'd approach other patients.

The first section of the questionnaire measured the knowledge of hospital workers regarding HIV transmission. 25% of participants believed that social contact can be a means of transmission of HIV, and 39% believed that coughing or sneezing could lead to HIV transmission. This is a major issue since it suggests that a portion of hospital workers may prefer not to come in close contact with HIV+ patients, in fear of transmission. This may lead to stigmatisation of PLHIV by hospital workers and add to the already growing problem of delayed healthcare seeking by these patients (10,11).

The second section assessed the knowledge of hospital workers about protection methods from HIV. Fortunately, 90% of hospital workers were aware that the use of barrier methods, such as condoms, was effective in reducing the risk of transmission of HIV. Nevertheless, the lack of

knowledge was evident in the other questions in section two. Over 50% of participants believed that there is an effective vaccine for HIV, which is untrue since there aren't any effective vaccination methods for HIV as of this date (18). Also, two-thirds of the participants were unaware that vertical transmission of HIV can be prevented by prophylactic therapy (3–5). Additionally, only 31% of nurses were aware of this method of prophylactic treatment, which was unexpected since nurses are amongst the hospital workers that receive medical education to an extent.

Analysing the approach of hospital workers towards PLHIV, a trend can be seen. Around 50% of participants' answers show that they would not approach PLHIV the same way as they'd approach other patients. This is indicative of their stigmatisation and discrimination towards these patients. This attitude was also shown in previous studies done in Turkey and around the world (12–15). The results obtained show that perhaps the level of knowledge of hospital workers regarding HIV has a negative impact on their approach and attitudes towards these patients. Furthermore, stigmatising PLHIV in such a way was shown to affect their healthcare-seeking behaviour in such a way that not only they delay seeking healthcare for everyday medical complaints, but also neglect their HIV treatments. Consequently, the transmission of HIV that isn't under control by medications could be easier. This may be one of the reasons why Turkey is seeing massive growth in new HIV cases in recent years.

### *Limitations of this study*

This is not a nationwide study as only 3 hospitals were included. Thus, it may not be fully representative of the level of knowledge and approach of hospital workers to PLHIV in different geographical areas of Turkey. Also, this study does not include all hospital workers, since physicians were excluded. However, this was done because most previous research looked at physicians and nurses, but not other healthcare environment workers (12–15). Another issue was that educational background, age, and other demographic characteristics were not looked at in detail or compared. However, they may have an impact on their level of knowledge, and consequently their approach to PLHIV, so this can be looked at in future studies. In addition, the participants were not chosen on any premise, rather the conductors of this questionnaire approached all the hospital workers in the three hospitals at that given time, and those who volunteered to participate took part in this study.

## Conclusion

It is important to note that education is of vital importance to ensure that hospital workers are very well informed regarding HIV and PLHIV. These patients encounter receptionists, laboratory technicians, physiotherapists, and others in hospitals. Even if they are stigmatised or

mistreated by one of these hospital workers, this could negatively impact their health-seeking behaviour in the future. Therefore, educating hospital workers can be a simple but effective method of improving the healthcare-seeking behaviour of PLHIV, and help improve their well-being while reducing the spread of HIV.

## References

1. WHO. HIV/AIDS Data and Statistics; 2016. Available at: <https://www.who.int/hiv/data/en/>
2. Tumer A. "HIV/AIDS nedir?" Hacettepe AIDS Tanı ve Araştırma Merkezi; 2014.
3. White AB, Mirjahangir JF, Horvath H, Anglemeyer A, Read JS. Antiretroviral interventions for preventing breast milk transmission of HIV. *Cochrane Database Syst Rev* 2014;Cd011323. [CrossRef]
4. Siegfried N, van der Merwe L, Brocklehurst P, Sint TT. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. *Cochrane Database Syst Rev* 2011;Cd003510. [CrossRef]
5. Arrive E, Dabis F. Prophylactic antiretroviral regimens for prevention of mother-to-child transmission of HIV in resource-limited settings. *Curr Opin HIV AIDS* 2008;3:161–5. [CrossRef]
6. WHO. Guidelines: Prevention and Treatment of HIV and Other Sexually Transmitted Infections Among Men Who Have Sex with Men and Transgender People: Recommendations for a Public Health Approach 2011. Geneva: World Health Organization; 2011.
7. Gökengin D, Oprea C, Uysal S, Begovac J. The growing HIV epidemic in Central Europe: a neglected issue? *J Virus Erad* 2016;2:156–61. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4967967/>
8. Mahajan AP, Sayles JN, Patel VA, Remien RH, Sawires SR, Ortiz DJ, et al. Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward. *Aids* 2008;22:S57–65. [CrossRef]
9. Harmanci C. Türkiye'de HIV ile yaşayan kişilerin yaşadıkları hak ihlalleri raporu. Pozitif Yaşam Derneği; 2009.
10. Ekstrand M. How does stigma affect HIV prevention and treatment. San Francisco: Center for AIDS Prevention Studies at the University of California, 2006. Available at: <http://caps.ucsf.edu/factsheets/stigma/> [Last accessed on: 2012 Aug 12].
11. Steward WT, Bharat S, Ramakrishna J, Heylen E, Ekstrand ML. Stigma is associated with delays in seeking care among HIV-Infected people in India. *J Int Assoc Provid AIDS Care* 2013;12:103–9. [CrossRef]
12. Inci A. Knowledge Level and Attitude of Health Care Workers About HIV/AIDS. *J Clin Anal Med* 2014;5:394–6. [CrossRef]
13. Bayrak B, Keten S, Fincanci M. Attitude of Health Personnel Towards People Living With HIV. *Klimik Derg* 2014;27:103–8. [CrossRef]
14. Feyissa GT, Abebe L, Girma E, Woldie M. Stigma and discrimination against people living with HIV by healthcare providers, Southwest Ethiopia. *BMC Public Health* 2012;12:522. [CrossRef]
15. Doka PJ, Danjin M, Dongs IS. HIV/AIDS-related stigma and discrimination among health-care providers in a tertiary health facility. *J Med Sci* 2017;37:44–9. [CrossRef]
16. İnan M. AIDS'te 10 yılda yüzde 465 artış. *Milliyet* 2017. Available at: <http://www.milliyet.com.tr/haberler/hiv>
17. Indigo. Dünyanın en büyük HIV/AIDS araştırması çarpıcı sonuçları. *Indigo Derg* 2017. Available at: <https://indigodergisi.com/2017/11/hiv-aids-arastirmasi/>
18. AVERT. SEARCHING FOR A CURE FOR HIV AND AIDS. Available at: <https://www.avert.org/professionals/hiv-science/searching-cure>