



The Impact of Clinical Rotation in Addiction Treatment Centers (AMATEM) on Attitudes and Behaviors of Psychiatry Residents Toward Individuals with Addiction

Mustafa Danisman, Gamze Zengin Ispir, Kubra Sezer Katar

Ankara Training and Research Hospital, Alcohol and Drug Addiction Treatment Center, Ankara Türkiye

Content of this journal is licensed under a Creative Commons Attribution-NonCommercial-NonDerivatives 4.0 International License.



Abstract

Aim: Psychiatry residents often feel unprepared and may exhibit negative attitudes toward individuals with substance use disorders, which can undermine treatment access and outcomes. This study examined the impact of a three-month Alcohol and Drug Treatment Center (AMATEM) rotation on residents' attitudes and explored factors influencing these attitudes.

Material and Method: Ninety-one psychiatry residents who applied for a three-month rotation training on addictions at Ankara Training and Research Hospital AMATEM Clinic completed a personal information form and the Attitudes and Behaviors Toward Substance Users Scale at the start and end of the rotation.

Results: Residents' stigmatizing attitudes significantly decreased post-rotation. Those who felt unsafe before the rotation reported higher stigma scores, and residents who believed they needed more education had fewer negative attitudes initially. Paradoxically, participants who anticipated referring patients to AMATEM due to insufficient training showed increased stigma after completion of the rotation.

Conclusion: Overall, structured, practical, and case-based training—delivered under experienced supervision—can reduce negative attitudes and help residents feel safer. Further research should clarify how specific training processes influence the knowledge, attitudes, and beliefs of future psychiatrists regarding substance use disorders.

Keywords: Addiction, psychiatry residents, addiction training, attitudes and stigma, healthcare education

INTRODUCTION

Attitudes and behaviors toward individuals with addictions have gone through various changes for centuries. Individuals with addiction were considered sinners or criminals in the 19th century. However, following scientific advancements and social reforms, the World Health Organization (WHO) first recognized them as patients in the early 1950s (1). In parallel with these developments, the American Psychiatric Association, through the DSM-III (Diagnostic and statistical manual of mental disorders), first acknowledged addiction as a disorder, moving away from the sociopathic personality emphasis present in previous editions of the DSM (2).

Despite these changes in the conceptualization of addiction over the years, the conflict between the moral addiction model and the medical chronic disease model persists to

this day (3). According to the medical model, individuals seen as vulnerable and victimized by their illness should be protected and treated with the proactive involvement of professional healthcare workers (4,5). On the other hand, the moral model, which does not view addiction as a disease, holds individuals solely responsible for both their illness and its resolution (4). Resistance to shifting away from the moral model, which ignores the medical disease aspect of addiction, persists among a significant portion of society, including healthcare workers.

Addiction has consistently been regarded more negatively than other mental health conditions within society (6,7). People with substance addiction are often perceived as dangerous, lacking decision-making ability, and primarily responsible for their condition (7,8). Similar to this general societal perception, many studies have shown

CITATION

Danisman M, Zengin Ispir G, Sezer Katar K. The Impact of Clinical Rotation in Addiction Treatment Centers (AMATEM) on Attitudes and Behaviors of Psychiatry Residents Toward Individuals with Addiction. *Med Records*. 2025;7(1):178-86. DOI:1037990/medr.1595001

Received: 02.12.2024 Accepted: 30.12.2024 Published: 15.01.2025

Corresponding Author: Mustafa Danisman, Ankara Training and Research Hospital, Alcohol and Drug Addiction Treatment Center, Ankara Türkiye

E-mail: amatemakademik@gmail.com

that healthcare workers feel insufficiently motivated when working with addicted patients, exhibit lower respect toward them, and frequently express dissatisfaction with working with such individuals (9-11).

The attitudes of healthcare professionals toward patients with substance use disorders (SUDs) have been explored across different disciplines and settings (12,13). A multicenter study found that healthcare personnel working in primary care settings exhibited more negative attitudes compared to those working in general psychiatry clinics and clinics specializing in addiction treatment (10). Another study demonstrated that anesthesiologists held more negative attitudes toward patients with substance use disorders than physicians who regularly dealt with such patients (14). Moreover, multiple studies have found that healthcare workers who directly work with individuals with substance addiction show more positive attitudes toward these patients (14-16).

Negative attitudes of healthcare workers toward individuals with substance use can adversely affect the delivery of healthcare services, leading to difficulties in accessing treatment and relapses (17,18). As stigma research shows, factors such as knowledge and experience can mitigate beliefs and attitudes associated with stigmatized conditions (19,20).

The impact of education and training on healthcare workers' attitudes toward patients with substance use disorders has been investigated in various studies. Generally, it has been determined that healthcare workers possess low levels of knowledge about substance use disorders and feel inadequate in providing care to this specific patient group (11,15,21). Numerous studies have demonstrated that education and training have positive effects on healthcare professionals' attitudes and motivation to work with patients with substance use disorders (14,22,23). In this context, various authors have emphasized the need to integrate addiction education into the general medical curriculum to address the lack of knowledge in the field (23,24).

According to a 2014 survey conducted by the World Health Organization, approximately 37% of 155 countries lacked adequate postgraduate training programs for treating substance use disorders, while over 80% of European countries now offer programs for psychiatry residents (25). In Türkiye, the necessity of including an education module on substance addiction and a rotation at Alcohol and Substance Addiction Treatment Centers (AMATEM) in the residency training curricula for adult and child psychiatrists was first mentioned in the 2015 Drug Combat Emergency Action Plan and Strategy Document (26). Child psychiatry residents undergo a one-month theoretical and practical training rotation in various AMATEM clinics in Türkiye, while adult psychiatry residents complete a three-month rotation.

This study aims to assess the attitudes of psychiatry residents toward individuals with addiction, the factors

that may influence these attitudes, and the impact of completing an AMATEM rotation on related attitudes and behaviors.

MATERIAL AND METHOD

Study Sample

Before data collection, a power analysis was conducted, determining that the minimum sample size required was 64 participants. The power analysis was based on the following parameters: medium effect size ($d=0.50$), $\alpha=.05$, $1-\beta=.80$, and a two-tailed hypothesis. This analysis was performed using the G*Power software (version 3.1).

The study sample consisted of 91 psychiatry residents employed in various hospitals in Ankara province and attended a three-month addiction training rotation at the AMATEM clinic of Ankara Training and Research Hospital between 2023 and 2024. All participants provided informed consent to join the study.

Ethical Considerations

Before initiating the research, ethical approval was obtained from the Ankara Training and Research Hospital Scientific Research and Publication Ethics Committee (approval number E-23/1326, dated 12.10.2023). The study complied with the Declaration of Helsinki; all participants provided written informed consent.

Data Collection Instruments

1. **Personal Information Form:** The researchers developed this form to align with the study objectives. It collected sociodemographic data, such as age, gender, marital status, and length of residency. Additionally, it included 13 questions assessing participants' perceptions of their safety before the rotation, experiences of issues with patients suffering from alcohol/substance addiction, opinions on the effectiveness of AMATEM's addiction treatments, interest in addiction psychology, and views regarding the rotation.
2. **Attitudes and Behaviors Toward Substance Users Scale:** This scale, developed by Kaylı et al., consists of 27 items scored on a 5-point Likert scale (11). The response options range from "Strongly Agree" (1) to "Strongly Disagree" (5). Since the scale is unidimensional, the items are not divided into sub-dimensions. A higher total score indicates a more negative attitude toward individuals with substance use disorders. The items 7, 11, 12, 15, 19, and 20 are direct-coded and the other items are reverse-coded to calculate the total score. This scale was administered to residents at the beginning and end of their rotations.

Statistical Analysis

The data analysis involved descriptive statistics (frequencies and percentages), skewness and kurtosis statistics, paired sample t-tests, independent sample t-tests, one-way ANOVA, and simple linear correlation analysis. Analyses were conducted using SPSS software (version 25), with a significance level set at .05.

Skewness and kurtosis values were examined to assess the normality of the scale distributions in both measurements. Cronbach's alpha values were calculated to evaluate the reliability of the measurements. For the attitude scores (first measurement), the Skewness value is 0.34, the kurtosis value is 0.25, and Cronbach's α is .900. For the attitude scores (second measurement), the Skewness value is 0.18, the kurtosis value is -0.05, and Cronbach's α is .906. The skewness values for the attitude scale range from 0.18 to 0.34, while the kurtosis values range from -0.05 to 0.25. A skewness value within ± 3.00 and a kurtosis value within ± 10.00 indicate normal distribution (27). The reliability values (Cronbach's alpha) for the two measurements were .900 and .906, respectively. As reliability values above .70 are considered reasonable and values between .60 and .70 acceptable, the measurements demonstrated high internal consistency.

RESULTS

Descriptive Statistics

In line with the study's objective, data were collected from psychiatry residents twice: at the beginning of their AMATEM rotation and three months later at the end. A total of 91 residents voluntarily participated in the study. Descriptive statistics regarding the participants' sociodemographic variables are presented in Table 1.

An examination of Table 1 reveals that most participants were female. Regarding marital status, most residents were single and did not have children. Most worked in city hospitals, with the fewest participants from university hospitals. The mean age of the participants was approximately 29 years, and their average professional experience was 2.5 years.

Table 1. Frequencies and percentages of residents sociodemographic information

Categorical variables			
Variables	Levels	f	%
Gender	Female	60	65.9
	Male	31	34.1
Marital Status	Single/divorced/widowed	57	62.6
	Married	34	37.4
	None	81	89.0
Number of Children	1	9	9.9
	2	1	1.1
Hospital Worked	Training and Research Hospital	24	26.4
	City Hospital	45	49.4
	University Hospital	22	24.2
Total		91	100.0
Continuous variables			
	Min-Max	Mean	SD
Age	25-35	28.92	2.09
Length of residency	1-4	2.49	0.90

f: frequency, SD: standard deviation

After presenting the sociodemographic characteristics, descriptive statistics regarding various variables, particularly those related to addiction psychology and treatment, are shown in Table 2.

Table 2 shows that most residents reported having no prior issues with patients with alcohol or substance use disorder. Nearly all participants had colleagues who had completed an AMATEM rotation, but more than half found the information, which they got from their colleagues about the AMATEM system inadequate. Most participants expressed an interest in addiction psychology but did not have any patients or acquaintances who had undergone

addiction treatment. Regarding the effectiveness of AMATEM, residents generally believed the clinics were moderately successful in treating alcohol use disorder but less effective for other types of substance use disorder. Approximately one-third of the participants felt insufficiently safe at the start of their rotation. Most participants had no specific plans when asked about managing a patient consultation during the rotation, while others indicated they would follow their standard examination routines. By the end of the rotation, most participants stated they would manage addiction cases themselves rather than refer them to AMATEM clinics.

Table 2. Frequencies and percentages of residents opinions on various variables before the AMATEM rotation			
Variables		f	%
Previous experience with alcohol/substance-dependent patients	Yes	35	38.5
	No	56	61.5
Having a colleague who previously did an AMATEM rotation	Yes	86	94.5
	No	5	5.5
Adequate knowledge of AMATEM working system	Sufficient	37	40.7
	Insufficient	54	59.3
Interest in addiction psychology	Yes	56	61.5
	No	35	38.5
Knowing someone who has experience with the treatment process	Yes	15	16.5
	No	76	83.5
Thoughts on the success rates of alcohol addiction treatment at AMATEM	Low success	5	38.5
	Medium success	45	49.5
	High success	11	12
Thoughts on the success rates of other addiction treatments (non-alcohol) at AMATEM	Low success	57	62.6
	Medium success	31	34.1
	High success	3	3.3
Feeling secure at the start of AMATEM rotation	Do not feel secure	34	37.4
	Feel secure	57	62.6
Thoughts on the effect of sports or spiritual counseling on addiction treatment	Not effective alone	66	72.5
	Effective in some patients	25	27.5
What type of treatment is most suitable and adequate for substance addiction?	Only medication	1	1.1
	Medication+psychotherapy	90	98.9
Perspective on the AMATEM rotation	Should be completed as part of the curriculum	26	28.6
	Need independent training	65	71.4
Plan for managing a dependent patient during an outpatient examination	Routine examination duration	36	39.6
	Longer than routine examination	6	6.6
	Shorter than routine examination	5	5.5
Thoughts on where the treatment for an addicted patient should take place after rotation	No opinion	44	48.4
	Referral to AMATEM	24	26.4
	Treat in my clinic	67	73.6
Total		91	100.0

Comparison of Attitude Scores Pre- and Post-Rotation

The attitudes of psychiatry residents toward substance users were assessed before and after the AMATEM rotation. The results are presented in Table 3.

As shown in Table 3, residents' attitude scores toward substance users differed significantly between the two measurements. Post-rotation scores were considerably lower than pre-rotation scores, indicating reduced negative attitudes after the rotation.

Table 3. Comparison of substance use attitude scores

	Measurement	N	Mean	SD	t	p	d
Attitude scores	Before rotation	91	80.51	13.65	4.31	.000	0.45
	After rotation	91	74.10	14.19			

N: number, SD: standard deviation

Analysis of Factors Influencing Attitude Scores

The differences in residents' attitude scores before and after the rotation based on various factors are presented in Tables 4 and 5.

Table 4 shows that pre-rotation attitude levels differed significantly based on the variable of perceived safety. Residents who reported feeling safe before the rotation had substantially lower (more positive) attitude scores than those who did not feel safe. This difference had a moderate practical effect. Additionally, pre-rotation attitude levels were significantly associated with residents' perceptions

of the AMATEM rotation. However, post-rotation attitude scores did not vary considerably across variables, suggesting similar distributions after the rotation.

Table 5 highlights that pre-rotation attitude scores negatively correlate with residents' perceived safety levels before the rotation. A statistically significant relationship was also observed between pre- and post-rotation attitude scores and residents' perspectives on the AMATEM rotation, specifically regarding their training needs. After the rotation, a low-level but statistically significant negative correlation was found between residents' attitude scores and their plans for treatment management.

Table 4. Variations in pre-rotation attitude scores based on variables

Variables		N	Mean	SD	t/F	p	d
Alcohol treatment success	Low success	35	82.91	13.73	1.11	.334	--
	Medium success	45	78.40	12.89			
	High success	11	81.45	16.23			
Other substances treatment success	Low success	57	81.79	14.01	1.16	.247	--
	Medium success	34	78.35	12.94			
Interest in addiction psychology	Yes	56	80.05	13.79	0.40	.692	--
	No	35	81.23	13.58			
Perspective on AMATEM rotation	Part of the curriculum	26	85.50	11.23	2.26	.026	0.52
	Need for additional training	65	78.51	14.09			
Pre-rotation feel security	Not secure	34	86.12	14.62	3.18	.002	0.69
	Secure	57	77.16	11.96			
Having a relative with ASUD diagnosis	Yes	15	85.73	15.96	1.64	.105	--
	No	76	79.47	13.02			
History of conflict with a patient with ASUD	Yes	35	81.94	15.13	0.79	.430	--
	No	56	79.61	12.69			
Length of residency	2 years or less	47	79.51	11.00	0.72	.475	--
	2 years or more	44	81.57	16.07			
Post-rotation treatment	AMATEM	24	84.38	14.78	1.63	.106	--
	Self-treatment	67	79.12	13.06			
Gender	Female	60	82.83	14.52	2.32	.023	.51
	Male	31	76.00	10.59			

N: number, SD: standard deviation

Table 5. Correlation results

Questions	Attitude scores (Pre-rotation)	Attitude scores (After-rotation)
Alcohol treatment success	-.13	.01
Other substance addiction treatment success	-.12	-.01
Interest in addiction psychology	.07	.04
Perspective on AMATEM rotation	-.26*	-.21*
Pre-rotation security feeling	-.28*	-.09
Having a relative with an ASUD diagnosis	-.15	.14
History of conflict with a patient with ASUD	-.08	.07
Post-rotation treatment	-.14	-.23*
Gender	.26*	.19

*p<.05

Examination of Safety Perceptions

Given the identified negative correlation between pre-rotation attitude scores and perceived safety, as well as differences by gender, the relationship between perceived safety and various factors is presented in Table 6.

Table 6 shows that residents' perceived safety before the rotation varied significantly based on the quality

of information received from colleagues and gender. Among those who received adequate information from colleagues, 81.1% felt safe, compared to only 50.0% of those who did not receive adequate information. Additionally, most participants who felt unsafe before the rotation were female, whereas most of those who felt safe were male. No significant differences in perceived safety based on other variables were found, as distributions were similar across groups.

Table 6. Comparison of residents security feelings based on various variables

Variables		Feel secure f (%)	Does not feel secure f (%)	χ^2	r_s
Post-rotation treatment	AMATEM	10 (41.7)	14 (58.3)	0.26 (p=.611)	.05 (p=.616)
	Self-treatment	24 (35.8)	43 (64.2)		
	Total	34 (100.0)	57 (100.0)		
Length of residency	2 years or less	14 (29.8)	33 (70.2)	2.38 (p=.123)	.16 (p=.125)
	2 years or more	20 (45.5)	24 (54.5)		
	Total	34 (100.0)	57 (100.0)		
Risky alcohol and drug use	Yes	15 (42.9)	20 (57.1)	0.73 (p=.392)	.09 (p=.397)
	No	19 (33.9)	37 (66.1)		
	Total	34 (100.0)	57 (100.0)		
Information from colleagues	Yes	32 (37.2)	54 (62.8)	0.02 (p=.900)	.01 (p=.902)
	No	2 (40.0)	3 (60.0)		
	Total	34 (100.0)	57 (100.0)		
Adequate information	Sufficient	7 (18.9)	30 (81.1)	9.06 (p=.003)	.32 (p=.002)
	Insufficient	27 (50.0)	27 (50.0)		
	Total	34 (100.0)	57 (100.0)		
Gender	Female	28 (46.7)	32 (53.3)	6.52 (p=.011)	.27 (p=.010)
	Male	6 (19.4)	25 (80.6)		
	Total	34 (100.0)	57 (100.0)		

r_s = Spearman correlation coefficient

DISCUSSION

Many studies have shown that doctors, medical students, and psychiatry residents often feel inadequate when working with patients diagnosed with substance use disorders (SUDs). They tend to be pessimistic about the benefits of evidence-based treatment and may avoid working with such patients altogether (28,29).

In our study, we found a negative correlation between psychiatry residents' pre-rotation attitudes toward individuals using substances and their sense of security. A qualitative study examining the negative attitudes of healthcare professionals toward patients with SUDs revealed that participants viewed these patients as prone to violence and highlighted the emotional challenges of working with them (30). Another study conducted among general practitioners demonstrated that patients with substance addictions were often perceived as unmotivated, manipulative, and aggressive (21). In our research, some residents with negative perceptions of individuals with addiction felt less secure before their rotations. However, after gaining experience working with patients during their rotations, their attitudes may have shifted in a more positive direction.

Approximately one-third of the residents in our study reported feeling insufficiently secure before their rotations. Variables such as the duration of their residency, gender, prior experiences with patients diagnosed with SUDs, or personal perceptions and attitudes toward such patients may have influenced their pre-rotation sense of security.

However, no relationship was found between residency duration, previous problems with patients with SUD, and the resident's sense of security. This could be explained by the fact that, in our country, physicians, regardless of their residency experience, are often exposed to direct interaction with individuals with substance use disorders for the first time during their rotations in AMATEM clinics. Additionally, residents who had experienced prior issues with patients who had SUD may have resolved those issues, which could have impacted their sense of security differently. A more likely explanation is that the majority of our sample, who had not reported previous problems with patients with SUD, might still perceive these patients as manipulative or violent—similar to findings in earlier studies—despite their lack of personal experience, leading to comparable high levels of negative attitudes.

Another notable finding of our study was that residents who received adequate information from colleagues who had previously completed rotations reported feeling more secure. Residents who gained comprehensive knowledge about the clinical training and treatment processes might have felt more prepared to face potential challenges, reducing their anxiety. Furthermore, hearing about the experiences of other residents may have normalized personal difficulties and made them feel less isolated in these challenges, thereby increasing their sense of security (29).

The literature on the relationship between gender and attitudes toward substance users has produced inconsistent results. While some studies indicate no significant differences in attitudes based on age or gender (31,32) others have found that women tend to evaluate substance use more negatively and exhibit less tolerant attitudes toward individuals with SUDs than men (11,33). In our study, female residents were found to have higher pre-rotation attitude scores and were more likely to report feeling insecure. Cultural expectations, power dynamics, and social norms in our country may have influenced these gender-based differences in risk perception, ultimately affecting their attitudes and sense of security toward individuals with addiction. However, the absence of these gender differences after the rotation suggests that training balanced residents' attitudes and sense of security.

Two systematic reviews highlighted that healthcare professionals, including psychiatry residents, generally have low levels of knowledge about substance use disorders and a clear need for further education. Additionally, healthcare professionals interested in working in the field of addiction often demonstrate less stigmatizing attitudes even before receiving formal training (34,35). In our study, most residents expressed a need for addiction education and showed more positive attitudes toward individuals with addiction, consistent with the literature. However, some residents may perceive addiction rotations as merely an obligatory duty and not feel the need for such training due to their negative attitudes toward individuals with SUDs. Notably, the reduction in negative attitudes after rotation training among this group highlights the potential of well-structured mandatory training programs to mitigate these attitudes.

Residents who believed their training would be insufficient and preferred to refer patients to AMATEM clinics after their rotations were found to have higher stigmatizing attitude scores post-rotation. A qualitative study involving 35 healthcare professionals revealed that most participants felt inadequate or unwilling to engage with patients diagnosed with SUDs, believing that these patients should only be treated by addiction specialists (11). Residents who doubted the adequacy of their training and preferred to transfer the care of addicted patients to specialized clinics might have psychologically distanced themselves from both the patients and the training content during the rotation, thereby reinforcing their preconceived notions. Additionally, negative experiences during the rotation, such as repeated treatment failures or inappropriate medication requests, may have further exacerbated these residents' negative attitudes.

The most significant finding of our study was the notable decrease in residents' post-rotation attitude scores compared to pre-rotation scores. Studies have shown that in-person or online education on addiction epidemiology, pathophysiology, and treatment can improve residents' knowledge and attitudes (36). For instance, an online training module for first-year psychiatry and internal

medicine residents demonstrated decreased stigmatizing attitudes after the program (37). Similarly, a study involving psychiatry residents who received motivational interviewing training found that participants developed more favorable attitudes toward the concept and treatment of addiction (38).

In addition to education, other factors might have contributed to developing more positive attitudes among residents in our study. Frequent interaction and increased contact with patients who are diagnosed with SUD correlate with more positive attitudes among healthcare professionals (14-16,23). In a study where senior psychiatry residents assumed a supervisory role for six months with patients experiencing both addiction and comorbid psychiatric disorders, residents reported gaining a better understanding of recovery experiences and developing shared human emotions with the patients (39). In our clinic, activities such as theoretical training sessions, morning rounds, and rehabilitation programs may have provided residents with opportunities to interact with individuals with addiction, fostering a more understanding and empathetic perspective.

Studies indicate that educational programs alone have limited influence on the attitudes and behaviors of healthcare professionals. The most critical factor for change is the nature of the work environment (9). In our study, the relatively positive attitudes and role modeling of addiction specialists and other healthcare professionals in our clinic may have influenced residents' attitudes. A comprehensive review of the determinants of practice change in addiction emphasized that training strategies are more effective when combined with contextual factors such as staff cohesion and communication (40).

To the best of our knowledge, this is the first study in Türkiye examining the impact of AMATEM rotation training on psychiatry residents' attitudes toward individuals with substance use disorders. However, our study has several limitations. First, while the sample size was adequate, the generalizability of our findings to the broader population of psychiatry residents is uncertain. During the design phase, confidentiality concerns led us to indirectly inquire about alcohol and substance use histories through questions about their relatives rather than directly questioning the residents. However, personal histories of alcohol or substance use may have influenced the residents' attitudes. Additionally, we did not assess the residents' religious beliefs or attitudes, which could morally influence their perspectives. Self-reported surveys are prone to social desirability bias, potentially affecting the reported attitude scores. Finally, it should be noted that residents might influence one another's perspectives and attitudes toward individuals with substance use disorders.

CONCLUSION

In conclusion, considering the increasing prevalence of psychoactive substance use among children and

adolescents, we recommend reevaluating the current one-month limited rotation training on addiction offered in fields like child and adolescent psychiatry. Moreover, such education should not be confined to psychiatrists but should be integrated into all stages of medical education, albeit with varying durations. Viewing rotation training as merely a requirement and perceiving individuals with substance use disorders as unreliable may reinforce healthcare workers' negative attitudes towards this patient group and complicate treatment processes. Training programs should include practical applications and case studies that provide residents with opportunities to interact with individuals struggling with addiction under the guidance of experienced clinicians. This can help residents feel more confident and prepared. Furthermore, these programs should incorporate strategies to understand and mitigate the potential causes of stigmatizing attitudes. Further research is needed to better understand how factors related to training processes influence the attitudes, beliefs, and knowledge of resident physicians regarding addiction.

Financial disclosures: The authors declared that this study has received no financial support.

Conflict of interest: The authors have no conflicts of interest to declare.

Ethical approval: Ethical Committee of Ankara Training and Research Hospital, 12.10.2023, E-23/1326.

REFERENCES

1. Robinson SM, Adinoff B. The classification of substance use disorders: historical, contextual, and conceptual considerations. *Behav Sci (Basel)*. 2016;6:18.
2. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*, 3rd edition. Washington, DC: American Psychiatric Association. 1987.
3. Barnett AI, Hall W, Fry CL, Dilkes-Frayne E, Carter A. Drug and alcohol treatment providers' views about the disease model of addiction and its impact on clinical practice: A systematic review. *Drug Alcohol Rev*. 2018;37:697-720.
4. Auriacombe M, Fatséas M, Daulouède J-P. Réduction des risques, gestion des dommages, soins de l'addiction. Comment s'y retrouver et faire au mieux? Soyons responsables: simplifions!. *Alcoologie et Addictologie*. 2017;39:99-100.
5. Brickman P, Rabinowitz VC, Karuza J, et al. Models of helping and coping. *Am Psychol*. 1982;37:368-84.
6. Barry CL, McGinty EE, Pescosolido BA, Goldman HH. Stigma, discrimination, treatment effectiveness, and policy: public views about drug addiction and mental illness. *Psychiatr Serv*. 2014;65:1269-72.
7. Schomerus G, Lucht M, Holzinger A, et al. The stigma of alcohol dependence compared with other mental disorders: a review of population studies. *Alcohol Alcohol*. 2011;46:105-12.
8. Yang LH, Wong LY, Grivel MM, Hasin DS. Stigma and substance use disorders: an international phenomenon. *Curr Opin Psychiatry*. 2017;30:378-88.

9. Ford R, Bammer G, Becker N. Improving nurses' therapeutic attitude to patients who use illicit drugs: workplace drug and alcohol education is not enough. *Int J Nurs Pract*. 2009;15:112-8.
10. Gilchrist G, Moskalewicz J, Slezakova S, et al. Staff regard towards working with substance users: a European multi-centre study. *Addiction*. 2011;106:1114-25.
11. McLaughlin D, McKenna H, Leslie J, et al. Illicit drug users in Northern Ireland: perceptions and experiences of health and social care professionals. *J Psychiatr Ment Health Nurs*. 2006;13:682-6.
12. Au G. A review of attitude of medical professionals toward substance abuse. In: Au G, ed. *International Conference on Tackling Drug Abuse*. Hong Kong: The Government of the Hong Kong Special Administrative Region. 2006;citeseer.
13. Kelleher S, Cotter P. A descriptive study on emergency department doctors' and nurses' knowledge and attitudes concerning substance use and substance users. *Int Emerg Nurs*. 2009;17:3-14.
14. May JA, Warltier DC, Pagel PS. Attitudes of anesthesiologists about addiction and its treatment: a survey of Illinois and Wisconsin members of the American Society of Anesthesiologists. *J Clin Anesth*. 2002;14:284-9.
15. Giannetti VJ, Sieppert JD, Holosko MJ. Attitudes and knowledge concerning alcohol abuse: curriculum implications. *J Health Soc Policy*. 2002;15:45-58.
16. Russell C, Davies JB, Hunter SC. Predictors of addiction treatment providers' beliefs in the disease and choice models of addiction. *J Subst Abuse Treat*. 2011;40:150-64.
17. Ball SA, Carroll KM, Canning-Ball M, Rounsaville BJ. Reasons for dropout from drug abuse treatment: symptoms, personality, and motivation. *Addict Behav*. 2006;31:320-30.
18. Neale J, Tompkins C, Sheard L. Barriers to accessing generic health and social care services: a qualitative study of injecting drug users. *Health Soc Care Community*. 2008;16:147-54.
19. Corrigan PW. Mental health stigma as social attribution: Implications for research methods and attitude change. *Clin Psychol Sci Pract*. 2000;7:48.
20. Corrigan PW, Green A, Lundin R, et al. Familiarity with and social distance from people who have serious mental illness. *Psychiatr Serv*. 2001;52:953-8.
21. McGillion J, Wanigaratne S, Feinmann C, et al. GPs' attitudes towards treating drug misusers. *Br J Gen Pract*. 2000;50:385-6.
22. Howard V, Holmshaw J. Inpatient staff perceptions in providing care to individuals with co-occurring mental health problems and illicit substance use. *J Psychiatr Ment Health Nurs*. 2010;17:862-72.
23. Ding L, Landon BE, Wilson IB, et al. Predictors and consequences of negative physician attitudes toward HIV-infected injection drug users. *Arch Intern Med*. 2005;165:618-23.
24. Strobel L, Schneider NK, Krampe H, et al. German medical students lack knowledge of how to treat smoking and problem drinking. *Addiction*. 2012;107:1878-82.
25. Orsolini L, Rojnić Palavra I, Papanti GD, et al. Psychiatry trainees' attitudes, knowledge, and training in addiction psychiatry—a European survey. *Front Psychiatry*. 2021;11:585607.
26. Danişman M, Zengin İspir G, Sezer Katar K, Uçar Hasanlı Z. Evaluation of services for combating addiction in Turkey within the scope of the twelfth development plan (2024-2028). *Turk J Clin Psychiatry*. 2024;27:254-6.
27. Kline RB. *Principles and practice of structural equation modeling*. New York: Guilford Publications; 2023;426.
28. Wakeman SE, Pham-Kanter G, Donelan K. Attitudes, practices, and preparedness to care for patients with substance use disorder: results from a survey of general internists. *Substance Abuse*. 2016;37:635-41.
29. Avery J, Zerbo E. Improving psychiatry residents' attitudes toward individuals diagnosed with substance use disorders. *Harv Rev Psychiatry*. 2015;23:296-300.
30. Ford R. Interpersonal challenges as a constraint on care: the experience of nurses' care of patients who use illicit drugs. *Contemp Nurse*. 2011;37:241-52.
31. Gary LE, Berry GL. Predicting attitudes toward substance use in a Black community: implications for prevention. *Community Ment Health J*. 1985;21:42-51.
32. Spigner C, Hawkins WE, Loren W. Gender differences in perception of risk associated with alcohol and drug use among college students. *Women Health*. 1993;20:87-97.
33. Meltzer EC, Suppes A, Burns S, et al. Stigmatization of substance use disorders among internal medicine residents. *Subst Abuse*. 2013;34:356-62.
34. van Boekel LC, Brouwers EP, van Weeghel J, Garretsen HF. Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: systematic review. *Tijdschr Psychiatr*. 2015;57:489-97.
35. Cazalis A, Lambert L, Auriacombe M. Stigmatization of people with addiction by health professionals: current knowledge. A scoping review. *Drug Alcohol Depend Rep*. 2023;9:100196.
36. Bahji A, Smith J, Danilewitz M, et al. Towards competency-based medical education in addictions psychiatry: a systematic review. *Can Med Educ J*. 2021;12:126-41.
37. Avery J, Knoepfmacher D, Mauer E, et al. Improvement in residents' attitudes toward individuals with substance use disorders following an online training module on stigma. *HSS J*. 2019;15:31-6.
38. Jha MK, Abele MK, Brown JA, et al. Attitudes towards substance use disorders and association with motivational interviewing education: a survey of psychiatry chief residents. *Acad Psychiatry*. 2016;40:523-4.
39. Agrawal S, Capponi P, López J, et al. From surviving to advising: a novel course pairing mental health and addictions service users as advisors to senior psychiatry residents. *Acad Psychiatry*. 2016;40:475-80.
40. Bywood P, Lunnay B, Roche A. *Effective dissemination: a systematic review of implementation strategies for the AOD field*. Adelaide: National Centre for Education and Training on Addiction; 2008.