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Determination of Clinical and Socio-demographical Differences of Adolescents Applying to a Treatment Center with Family Encouragement or the Decision of the Probation Office and Determination of Predictive Factors in Maintaining Soberness among Probation Cases

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ABSTRACT

Introduction: This study has two objectives. The first objective of this study was the determination of some basic clinical and socio-demographical differences among the adolescents with substance abuse who apply to a treatment center with support from their family or by order of the probation office. The other objective of this study was the determination of the predictive factors in maintaining soberness among adolescents who successfully complete the probation treatment process.

Methods: The target population of this study is young adults under 19 years of age who apply to a substance addiction center for adolescents as a result of encouragement from their family or ordered by the Probation Office between 2005 and 2013. These two groups were analyzed in terms of socio-demographical characteristics such as age, the age at which they tried the substance, the age at which they applied to the treatment center, sex, substances they used, education period, employment history, and street life experience. The Statistical Package for the Social Sciences (SPSS) 18.0 software was used for the statistical analysis.

Results: It was detected that among the cases who applied to the treatment center with family support, their education period was longer than probation (PR) cases ($p<0.0001$), and the rates of previous treatment, their mother being alive, and having street life experiences were more frequent (p values: <0.0001; =0.010; =0.027; <0.0001, respectively) and employment history was higher among PR cases ($p<0.0001$). In terms of the substances used, ecstasy, alcohol, inhalants, and volatile substances are more common among those applying with family support (p=0.018; 0.001; <0.0001, respectively). However, use of cannabis was found to be more common among PR cases ($p<0.0001$). It was found that PR cases who successfully completed their treatment process had married parents (p=0.008) and had more years of education (p=0.004). It can be predicted that if the subject is well educated and does not use multiple substances or have an alcohol history, the treatment process for PR cases can be successfully completed. ($R2=0.176$; $p<0.0001$).

Conclusion: The rates of completing the treatment among cases analyzed in this study were higher than those among cases from adults. In the studies conducted, the results of the treatment efficiency among PR cases were inconsistent. This inconsistency may result from, except for legal obligations, having different circumstances such as socio-economic factors during the treatment period.

Keywords: Adolescent, probation, substance addiction

INTRODUCTION

In many countries, those who use illegal substances may become involved in crime to obtain said substances or could be taken into compulsory treatment programs if diagnosed with substance addiction issues. This practice is called "Probation" (PR). In Turkey, the legal ground for the PR practice was established in 2005, and in subsequent years, new regulations were implemented.

In article no. 191 law no. 5237 of the Turkish Penal Code, it is stated that a probation judgment can be issued for those who commit the crime of "Buying, accepting, or possessing narcotic or stimulant substances in order to use." It is also stated in article no. 109 law no. 5271 of the Turkish Penal Code that in an ongoing investigation being conducted due to a crime, the suspect may be taken into legal control instead of being arrested. Those who benefit from this decision must be subject to treatment and examination precautions, including being hospitalized, to be redeemed from narcotic, stimulant, or volatile substances or alcohol addiction and must acknowledge that they have a problem (1).

Under these laws, the individuals about whom the decision is made are transferred to hospitals that provide the recommended conditions for their treatment (2). The program to be followed for PR in health institutions was ratified by the Ministry of Health with a circular letter in 2009. In today's practice, individuals in the PR program are asked to follow their treatment schedule in the treatment institutions they are sent to as well as to give urine samples for toxicological analysis to prove they are substance free (3). Therefore, it is possible to track individuals within the society without being imprisoned. Along with these regulations in the Turkish Penal Code, people with substance addiction issues are now seen as people who need medical treatment and not criminals.

Medical, psychological, social, professional, and legal needs of those with substance addiction problems must be provided for a successful treatment (NIDA 2011). However, in Turkey, these services are offered below the desired level (4). In Turkey, the treatment for substance

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addiction is performed in clinics of public psychiatry hospitals, in psychiatry clinics of university hospitals, and in some privatized centers (AMATEM: Alcohol and Substance Addiction Treatment Center).

Probation programs for substance abusers are conducted by Probation Offices that are beholden to the Ministry of Justice in Turkey. The program begins prior to treatment and continues for at least 12 months after the medical treatment is completed. The probation treatment period differs, although the Turkish Psychiatry Association (TPA) has a suggested example program (5), and the law clearly defines details for consultancy services to be given to probation offices (2). This period varies between 1 month and 1 year (6). Positive outcomes have been obtained in treatments toward substance abuse among PR cases (7). Some researchers indicate that the treatment will not be efficient for unwilling people and that it is a violation of rights for willing patients (8).

The probation system has some deficiencies in Turkey. Differences in the field of practice require new approaches for standardization. Providing integrity for the treatment program, evaluating the program regularly, maintaining the program longer than a few months, the need of qualified consultants, the need for more consultants, motivating techniques during the program, cognitive-behavioral approaches, and evaluation processes after many group therapies/programs are necessary terms for the successful completion of the program (9).

Adolescents under the age of 19 years can also benefit from the PR practice. Sentencing children who abuse drugs to heavy imprisonment to maintain soberness is not an effective method. Taking these children into custody might be efficient in preventing this tendency, but this practice does not teach them how to defeat this addiction when they are released. Therefore, a more constructive approach handled by social welfare and security institutions, rather than criminal courts, is more effective than punishment of drug abuse amongst children (10).

Differences in age, period and intensity of the drug abuse, presence of co-morbidities, type and extent of the relation with crime, psychological functionality level, social stratum they belong to, treatment history, reasons for abuse, early developmental phases, motivation for a change, personally attending the treatment process, or maintenance of well-being causes PR cases to be a sub-culture among drug abusers (11). However, there is not enough research to support the claim that PR cases are, in fact, a subgroup. Studies about the characteristics determining the socio-demographical and clinical characteristics (12,13) of the patients applying to the treatment center within the PR program having an effect on the treatment (6) are quite limited (14). In another aspect, there are significant differences between the patients who maintain soberness following the rules of the substance addiction treatment program and the individuals who continue to abuse drugs in terms of socio-economic status, mental health, the drugs abused, and criminal records (15).

This study has two objectives. The first objective was to determine the clinical and socio-demographical differences of the adolescents who apply to the treatment center for help with drug abuse with family support or upon a probation decision court order. The second objective was to determine clinical and socio-demographical qualifications which take effect in the maintenance of soberness among cases that are admitted to an adolescent treatment center upon the probation court order.

METHODS

The target population of this study is young adults under 19 years of age who apply to a substance addiction center for adolescents as a result of their family's encouragement or conducted by the Probation Office between 2005 and 2013. Among those who apply to the treatment center during the period analyzed in this study, 66.3% (n=1377) applied with family support, 21.8% (n=455) were PR cases, and the other 11.8% (n=245) applied through other means (social services, school, friends, etc.). In total, 1832 individuals (1377 family support, 455 probation) qualified for this study. Overall, 304 cases among those who applied with family support were excluded as there was no substance abuse, and the family only appealed to receive consultancy. Their information was either inadequate or did not reflect the truth.

Collecting Data

A semi-constructed data survey was used to determine socio-demographical and drug abuse characteristics of the cases. This form was filled in by a practicing physician and a clinic nurse with the information obtained from the files of the cases applying to the center. A file is issued for each patient applying to the center, and the same file is used for their repeated controls. The patients' files are evaluated by the clinic supervisor, the information that does not reflect the truth is corrected the next time the counselee visits, and the missing information is completed. The information in the completed file is transferred into a form. These forms are recorded into the database by another clinic nurse. The individuals who are in charge of obtaining the data surveys have received education as a special student in a post-graduate program about addiction consultancy as well as attended the Certified Education Program For Staff in Substance Addiction Treatment by the Turkish Republic Ministry of Health General Directorate for Treatment Services.

In probation cases, the success of the treatment is determined by a series of urine analyses and clinical evaluations. During the treatment program, a total of five appointments are made, with 2 weeks between each appointment. Appointments are made for the participants when they apply for the first time. Starting from the first appointment, urine samples are taken in the 1st, 5th, and 9th weeks. Treatment is considered successful in patients whose samples are free of substance in all three tests. Patients where substances are detected in one or two samples are re-admitted into the program. Patients that fail all three toxicological tests and those with substances detected in any of the three samples during the second round are considered to have failed the treatment. At the end of this phase, a report indicating the result of the treatment is sent to the Probation Office and Welfare Center. In this study, maintaining soberness in the positive medical board report is considered a successful treatment.

In this study, the criteria that affect the success of the treatment were determined by analyzing the index. These independent variables were determined as age, starting age of substance abuse, the period between starting the substance and the treatment, previous treatment record, educational level, age of parents and if the parents are currently alive, street life experience, occupational and criminal record, and type of substance used.

Statistical Analysis

A series of bivariate analyses were performed to determine prescriptive factors in completing the treatment. The variables linked to addiction were categorized as adolescents applying to the center "with family support" or upon "probation decision," "successfully completing the probation treatment process (PR+)," and "unsuccessfully completing the probation treatment process (PR-)." Chi-square tests and Fisher exact tests were used for the comparison of categorical variables between groups. In the bivariate analysis, logistic regression analysis, the significant independent determiner, was performed to analyze the effects of the factors. Logistic

Table 1. Assessments of the groups according to sex and marital status

		Family		PR		PR (+)		PR (-)		Family and PR		PR (+) PR (-)	
		n	%	n	%	n	%	n	%	χ^{2*}	p	χ^2	p
Sex	Woman	211	19.7	12	2.6	8	2.4	4	3.1	74.319	<0.0001	0.180	0.671
	Man	86.2	80.3	443	97.4	320	97.6	123	96.9				
Marital status	Married	773	72.2	337	72.2	247	75.5	80	65.3	0.000	0.997	6.570	0.010
	Divorced Widow	298	27.8	126	27.8	80	24.5	46	36.5				

*Chi-square. Family:cases who apply to the treatment center with support from their families; PR: cases who are ordered to apply to the treatment center by the probation office; PR (+): cases who successfully finish the treatment process of probation; PR (-): cases who did not successfully finish the treatment process of probation

Table 2. Comparison according to age, starting age, first treatment age, time before the treatment (month difference), years of education, age of mother, age of father, and number of siblings

	Family	PR	PR (+)	PR (-)	Family and PR		PR (+) PR (-)	
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	t	p	t	p
Age	16.1±1.6	16.9±1.1	17.0±1.1	16.9±1.1	-9.946	<0.0001	0.603	0.547
Starting age	14.3±1.8	14.4±1.8	14.5±1.8	14.2±1.9	-1.610	0.108	1.595	0,111
First treatment age	16.1±1.6	16.9±1.1	16.9±1.1	16.8±1.2	-9.985	<0.0001	0.912	0.362
Month difference	19.2±20.7	24.9±20.8	23.7±20.9	27.7±20.4	-4.837	<0.0001	-1.842	0.066
Years of education	8.5±1.8	7.7±2.2	7.9±2.2	7.2±2.1	7.063	<0.0001	2.922	0.004
Age of mother	41.2±6.3	41.8±6.3	41.7±6.1	42.0±6.7	-1.465	0.143	-0.479	0.632
Age of father	46.0±6.5	47.0±6.9	46.8±6.7	47.3±7.1	-2.353	0.019	-0.692	0.489
Number of siblings	2.9±1.7	3.5±2.1	2.4±1.8	2.4±1.6	-5.693	<0.0001	-0.207	0.723

Age: the age at which the case applies to the treatment center; Starting age: the age at which the case tries the substance; First treatment age: the age at which the case receives any psychiatric assistance for substance addiction; Month difference: the time (month) between trying a substance for the first time and applying to the treatment center; Years of Education: the time (years) of education completed; Family: cases who apply to the treatment center with support from their families; PR: cases who are ordered to apply to the treatment center by the probation office; PR (+): cases who successfully finish the treatment process of probation; PR (-): cases who did not successfully finish the treatment process of probation

regression analysis was performed using the advanced-graded (probability ratio) method. The results were evaluated with a confidence interval degree of 95%, p<0.05 (2–sided).

RESULTS

In this study, a total of 1528 individuals participated among the cases whose file information was adequate and who were ordered to undergo treatment by the Probation Office (n=455) or who applied with family support (n=1073). This target population consisted of 85.4% men (n=1305) and 14.6% women (n=223). It was determined that the average age of the cases participating in the study was 16.4±1.5 years, and the average period of education was 8.3±2 years.

It was detected that the male population represented a significantly high number of the PR cases (p<0.0001). The ratio for successfully completing the probation treatment process was 72.1%. The groups which successfully or unsuccessfully completed the probation treatment process was similar in terms of sex. Within the evaluation, according to the marital status of the parents, the ratio of married parents was similar in cases with family support (72.2%; n=773) and in PR cases (72.2%; n=337). The PR cases who successfully completed the treatment process have a higher ratio of married parents (75.5%; n=247) than the cases who did not complete the treatment process successfully (65.3%; n=80) (p=0.010) (Table 1).

The average age of the case, the age at which they started the treatment, the age of the father, and the average number of siblings of the cases who applied to the treatment center with family support were lower than in PR cases. It was determined that the groups from the probation treatment process who successfully or unsuccessfully finished the program were similar in terms of these clinical findings. The period between the first time the case tried the substance and the beginning of the treatment was shorter in cases with family support than in PR cases (p<0.0001). This clinical finding was lower among cases that successfully completed the probation treatment process (23.7±20.9 months) than among cases that did not (27.7±20.4 months), but this difference was not statistically significant (p=0.066).

It was detected that education period among the cases with family support was longer than among PR cases (p<0.0001). It was also detected that the education period for cases that successfully completed the probation treatment process was longer than for cases that did not complete this process successfully (7.9±2.2; 7.2±2.1; p<0.004, respectively) (Table 2).

It was determined that the cases with family support have a higher ratio of having previous treatment, a mother that was still alive, and street life experience than PR cases (p<0.0001; 0.010; 0.027; <0.0001, respectively). On the other hand, PR cases only have a higher ratio in work history (p<0.0001). With the cases that completed the treatment process successfully or unsuccessfully, in terms of these parameters, it was detected that the cases that failed the treatment process had a higher ratio for street life experience (p=0.027) (Table 3).

The abuse of ecstasy, alcohol, and inhalant substances was more common among adolescents who came to the center with family support than among PR cases (p=0.018; 0.001; <0.0001, respectively). On the contrary, the abuse of cannabis was more common among PR cases (p<0.0001).

Table 3. Comparison of the groups according to previous treatment, mother alive, father alive, birth mother, birth father, family story, street life, criminal record, and occupation story

	Family		PR		PR (+)		PR (-)		Family and PR		PR (+) PR (-)	
	n	%	n	%	n	%	n	%	χ^{2*}	p	χ^2	p
Previous treatment	495	46.2	60	13.2	41	12.5	19	15.0	150.249	<0.0001	0.484	0.537
Mother alive	1057	98.8	438	96.7	315	96.3	123	97.6	7.750	0.010	0.472	0.492
Father alive	1016	95.0	423	93.8	307	94.2	116	92.8	0.983	0.320	0.292	0.663
Birth mother	1051	98.4	443	98.0	321	98.5	122	96.8	0.301	0.665	1.254	0.263
Birth father	1035	97.4	441	98.7	319	98.8	122	98.4	2.386	0.133	0.095	0.133
Family story	365	34.1	157	34.6	109	33.3	48	37.8	0.031	0.860	0.805	0.860
Street life	365	34.2	128	28.3	80	24.5	48	38.1	5.075	0.027	8.226	0.027
Criminal record	518	48.5	245	54.0	178	54.3	67	53.2	3.803	0.057	0.044	0.834
Employment history	666	62.6	383	84.5	281	85.9	102	81.0	71.781	<0.0001	1.727	0.194

Previous treatment: did the case receive any psychiatric support for any issue due to substance addiction? Family Story: do the parents have substance addiction? Street Life: starting before the age of 13 years, spending the night out despite restrictions by the parents, running away from parents' or surrogate parents' home at night at least twice; criminal record: getting involved in crime, having trouble with the police; employment history: Has the case ever worked? Except for one-day jobs; Family: cases who apply to the treatment center with support from their families; PR: cases who are ordered to apply to the treatment center by the probation office; PR (+): cases who successfully finish the treatment process of probation; PR (-): cases who did not successfully finish the treatment process of probation

Table 4. Range of groups according to the substances used

	Family		PR		PR (+)		PR (-)		Family and PR		PR (+) PR (-)	
	n	%	n	%	n	%	n	%	χ^{2*}	p	χ^2	p
Cigarette	874	81.5	389	85.5	282	86	107	84.3	3.639	0.065	0.219	0.657
Cannabis	744	69.3	426	93.6	302	92.1	124	94.6	105.063	<0.0001	4.751	0.031
Ecstasy	321	29.9	109	24	64	19.5	45	35.4	5.613	0.018	12.739	0.001
Alcohol	259	24.1	74	16.3	54	16.5	20	15.7	11.623	0.001	0.034	0.889
İnhalant	538	50.1	86	18.9	54	16.5	32	25.2	129.053	<0.0001	4.555	0.045
Benzo	90	8.4	31	6.8	18	5.5	13	10.2	1.086	0.351	3.251	0.095
Cocaine	25	2.3	6	1.3	6	1.8	0	0,0	1.644	0.237	2.354	0.125
Heroin	19	1.8	2	0.4	2	0.6	0	0,0	4.177	0.052	0.778	0.378
Others	4	0.4	0	0.0	0	0	0	0	1.701	0.325	-	-
Plural substances	329	24.5	106	21.3	65	17.8	41	30.8	2.033	0.154	9.861	0.002

Plural substances: using any three substances together at addiction levels, except for cigarettes

With cases that completed the probation treatment process successfully or unsuccessfully, in terms of substance choice, the abuse of cannabis, ecstasy, inhalants, and multiple substances was detected to be more common among the cases who failed the probation treatment process (p=0.031; 0.001; 0.045; 0.005, respectively) (Table 4).

When a regression model was constructed to indicate a positive PR response, it could be predicted that the probation treatment process would give positive results when the completed education period variable increased and with the absence of multiple substance abuse and alcohol history (R^2=0.176; p<0.0001). The other variables were excluded in this regression model (Failure in probation treatment process=2.823+5.3 multiple substances+0.852 education period+0.308 alcohol abuse).

DISCUSSION

When the index was analyzed, a study that analyzed the PR cases in Turkey in terms of similar clinical characteristics was detected. The study mentioned above was conducting among patients who were adults. There were no other studies found detecting PR outcomes. Determining individual characteristics that may affect the result of a treatment in high-risk cases enables the treatment team to develop a more proper intervention model by reviewing case management, to track the cases more often and more closely, and to increase the ratio of maintaining soberness. Although individuals who abuse substances and commit crimes have something in common, it was emphasized that, in fact, they are not a homogeneous group (13,16). Medical approaches are more effective in decreasing the addiction problem than punishment methods (17). The practice of imprisonment for crimes related to substance abuse was not a deterrent over the substance abuse problem (18). A society constructed for the personal problems of narcotic criminals, permanent treatment, and providing comprehensive welfare services enable these individuals to adapt to the society successfully. Moreover, providing efficient treatment and welfare opportunities was the most effective way of preventing individuals with substance abuse problems from imprisonment and other similar judicial punishments.

Since the PR law was implemented in 2005, a new group of patients have applied to the Alcohol and Substance Addiction Treatment Center (AMATEM). According to the records of the American National Statistics Office, among the 4.2 million individuals (19) in a PR program in 2009, 60%–70% were people with substance abuse (20). In American clinics

that studied the field of addiction, the ratio of patients ordered to undergo treatment by law enforcement was around 40%–50% (21). During the period analyzed in this study, 21.8% of the people who appealed to the center were PR cases.

A great majority of individuals in this study were male adolescents. This finding is coherent with the index that indicates substance abuse is less common among female cases. The female PR case ratio is far less than female cases with family support. This is important for two reasons. Firstly, female cases are less transferred in PR practice. Secondly, studies regarding female PR cases are needed. This need arises from the fact that the effects of sex in PR cases on the proceeding have not been reflected and that the effective factors in maintaining soberness for female cases differ from those for male cases (22).

Probation treatment efficiency varies according to the practice of the treatment method and the characteristics of society (14). According to 2008 data about patients undergoing treatment with PR precaution, it was reported that the ratio of those who completed the treatment was 39.7% and those who did not was 31.8% (23). In a study conducted among adults in Turkey, the ratio for completing the treatment was 51.9% and the ratio for completing the treatment successfully had an inverse proportion with age, with the highest success ratio between the ages of 26–30 years scoring a success ratio of 65.9% (6). In the study we completed, the ratio for successfully completing the treatment process was found to be 72.1%, and the average age was 16.9±1.1 years. This finding corresponds to the finding of Turan and Yargıç (6) that indicated a younger age is more favorable for maintaining soberness. The results of the cases in this study were sent to PR Offices after they had been tracked for 10 weeks. This period was relatively short. However, with respect to the chances of failing the PR process being the highest at the beginning. Gray et al. (24) reported that the ratio of failure, particularly in the first 100 days, was 30%.

In the study conducted, the results concerning the efficiency of treatment in the PR system were incoherent. This incoherence may result from different factors other than legal obligations, such as socio-economic factors (11,25). In the USA, the cases that failed treatment were re-admitted to the treatment center (25). In this case, those who were re-admitted to the treatment center under the probation precaution showed less motivation because of their severe psychopathology and failed treatment history. Those individuals, whose expectations from the treatment were met, can face legal sanctions (26). In the PR practice, it was detected that those who abandon the treatment early have an older criminal record, less motivation for the treatment, far more severe psychiatric problems and unemployment, and a higher ratio of substance abuse, particularly heroin (15). In this study, only 2 of the PR cases (0.6%) and 19 cases with family support (1.8%) abused opioids. This finding can be explained by the fact that opioid abuse is far less common during adolescence in Turkey (13). The fact that opioid abuse is more common among cases with family support can be because this substance causes severe physical symptoms; as a result, the family can detect this problem earlier. However, it is difficult to make a comment about the success of treatment because of limited cases.

The most common illegal substance among both cases with family support and PR cases was cannabis abuse. This substance was also found to be used more commonly among the PR cases that failed treatment. Apart from cannabis, ecstasy and volatile substance abuse were detected more commonly among PR cases that failed treatment. It was found that 85.2% of male PR cases abused cannabis (6) and that cannabis was the most commonly encountered substance in both lifelong abuse and in urine analysis (12). It was detected that adolescent substance abusers in Turkey choose substances such as cannabis and volatile substances because they could be obtained easily and that these substances are abused among the children who live in the streets with no parental role models (27). The success of treatment can vary according to the type of substance abuse. Therefore, research with equal distributions of the substance used is needed. Multiple substance abuse was also a factor resulting in abandoning the treatment at an early period (28). In this study, adolescents with multiple substance abuse have a higher failure ratio from the PR process. Adult multiple substance abusers also have a low ratio of completing the PR program successfully (6). While this paper was being issued, it was clinically observed that there was an increase in synthetic cannabis (bonsai, Jamaica) abuse. However, synthetic cannabis started to be routinely studied in the toxicology laboratory in our institution only after July 2014. Because this paper covers the years between 2005 and 2013, synthetic cannabis was not separately evaluated. Future studies should be planned so that they can include this substance as well.

It was stated in the index that starting the substance at a young age was among the factors that affected the process negatively (29). However, in this study, there was no difference determined among the groups that were analyzed in terms of the starting age of substance abuse. On the other hand, first treatment age was not a determining factor for the success of the treatment. It was detected that the cases with family support applied to the treatment center at a younger age than PR cases.

It was stated in the index that low education level affected the addiction treatment negatively (30). The number of studies conducted in our country was limited, and all university graduates completed the treatment process successfully (6). In this study as well, it was detected that PR cases with a longer education period completed the treatment process with a higher success ratio.

It was stated that unemployment has a negative effect on maintaining soberness (30). It was detected that the only prescriptive variable of substance abuse among adult PR cases is employment (12). In this study, the cases with family support had a lower ratio of work history than PR cases. On the other hand, presence of work history was not a prescriptive factor for PR success.

The only drawback of this study is that it is retrospective. The other drawbacks of the study are that there was no reconstructable scale used in the study and that the variety and reliability of the data reduces because of the defensive manner of the individuals who are ordered to undergo treatment by the legal process. However, to our knowledge, this is the first study in our country involving adolescent PR cases. No matter what causes to start the treatment, more research is needed to determine the proceeding of adolescents with substance abuse.

For the past 20 years, compulsory substance analysis, compulsory physical and psychological treatment, serving community service, paying compensation, and maintaining their life within the society under legal control have been fundamental practices aimed at preventing substance abuse (14). In some studies, it was stated that a linear relationship existed between increased control and monitoring of PR cases resulting in negative PR success rates (31). Although identifying what the most successful treatment method is remains a problem, it has also been stated that a well-organized, properly executed, and maintained treatment program has positive effects on both criminal records and substance abuse (32).

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