World Journal of Public Health
2023; 8(2): 120-127
http://www.sciencepublishinggroup.com/j/wjph
doi: 10.11648/j.wjph.20230802.22
ISSN: 2637-6040 (Print); ISSN: 2637-6059 (Online)

Research on Factors Related to Drug Abuse Relapse Among Patients

Shi Mengjun[1], Zhang Qiuni[2]

[1]The Third Compulsory Drug Rehabilitation Center in Yunnan Province, Yunnan Drug Rehabilitation Administration, Yuxi, China
[2]School of Business and Tourism Management, Yunnan University, Kunming, China

Email address:
13508893597@163.com (Shi Mengjun)

To cite this article:
Shi Mengjun, Zhang Qiuni. Research on Factors Related to Drug Abuse Relapse Among Patients. *World Journal of Public Health*. Vol. 8, No. 2, 2023, pp. 120-127. doi: 10.11648/j.wjph.20230802.22

Received: March 6, 2023; **Accepted**: May 6, 2023; **Published**: May 10, 2023

Abstract: *Purpose:* To study the influencing factors of the time limit for maintaining abstinence of drug addicts and provide a scientific basis for the formulation of targeted intervention to extend the time limit of ethics. *Methods:* A total of 237 individuals were randomly selected from 23,350 individuals who were released from compulsory isolation for drug addiction and received long-term follow-up from December 1, 2010 to December 1, 2020. Among them, 215 individuals had relapsed after drug withdrawal (with a duration of maintaining abstinence ranging from 0 to 120 months), and 22 individuals had maintained abstinence after drug withdrawal for more than 120 months were used as the research objects. The relapse reasons self-assessment scale, social regression factors self-assessment scale, and three-dimensional personality scale-curiosity subscale were used to conduct a questionnaire survey to analyze the psychological and social factors influencing drug abuse patients. *Results:* The differences in the number of times of drug withdrawal, education level, marital status, and duration of drug abuse among drug withdrawal patients with different durations of maintaining abstinence were statistically significant ($P < 0.05$). The differences in the relapse reasons self-assessment scale among drug withdrawal patients with different durations of maintaining abstinence, such as physiological symptoms, job discrimination, drug-related temptations, rehabilitation effects, and social regression factors such as family acceptance, police acceptance, community services, and drug prohibition policies, were statistically significant ($P < 0.05$). Except for no significant difference with the control group in NS1 (only significant differences were found in the 49-60 month group, $P < 0.05$), the differences between drug withdrawal patients with different durations of maintaining abstinence and the control group in NS2, NS3, and NS4 were statistically significant ($P < 0.05$). *Conclusion:* Factors affecting relapse include drug-related temptations, rehabilitation effects, job discrimination, family and friends' rejection, psychological symptoms, and personality traits; Factors affecting social regression include family acceptance, economic income, drug prohibition policies, fair treatment, and job opportunities. To intervene in the factors leading to relapse in drug abuse patients, attention should be paid to the first withdrawal, education level, physiological symptoms, job discrimination, drug-related temptations, rehabilitation effects, family acceptance, police acceptance, community services, and drug prohibition policies.

Keywords: Drug Withdrawal Patients, Duration of Maintaining Abstinence, Factors Leading to Relapse, Differential Characteristics

1. Introduction

In countries with relatively mature drug rehabilitation systems, the relapse rate among drug users can be as high as 80-90%, while in China, the overall relapse rate is close to 90%, and in some areas, it can be even higher than 95% [1, 2]. Due to the difficulty of achieving lifelong abstinence from drugs, the industry currently uses a retention rate with a time limit instead of a relapse rate. Prolonging the retention time limit can reduce the number of times addicts abuse drugs throughout their lifetime, and is considered to be an effective way to reduce the relapse rate. The retention time limit is not specifically defined in relevant literature, but this study defines it as the period of time from the completion of substance addiction treatment (with mandatory isolation

detoxification as the end of the treatment cycle) to the time when the individual uses illegal psychoactive substances again, based on the understanding of the retention rate in various contexts. Domestic research on the retention time limit mainly focuses on relapse and reintegration into society, and explores the influencing factors of retention from the physiological, psychological, and social perspectives, which provides theoretical support for this study. Physiologically, severe physical symptoms caused by protracted withdrawal syndrome can easily lead to a relapse tendency in drug users [3]. Psychologically, self-esteem and depression can indirectly affect the risk of relapse in drug users [4, 5]. Socially, the level of social support for drug users in mandatory isolation detoxification is negatively related to the tendency to relapse. Inadequate social and family support can easily lead to relapsing, and factors such as drug friends' influence, drug-using environments, living conditions, family care, and age of first use are highly correlated with relapse [6-10]. Based on the foundation of research on the retention time limit, this study sampled and surveyed the basic characteristics, psychological and social factors, and differences among patients with different retention time limits in the Third Mandatory Isolation Detoxification Center of Yunnan Province, and explored the relevant factors affecting the retention time limit, as reported below.

2. Objects and Methods

2.1. Research Object

The study focuses on 237 randomly selected individuals out of 23,350 individuals who were released from the Yunnan Province Third Compulsory Isolation Detoxification Center between December 1, 2010, and December 1, 2020. These individuals were subjected to a long-term follow-up, with 215 of them relapsing after detoxification (maintaining abstinence for 0 to 120 months) and 22 maintaining abstinence for more than 120 months. For conceptual consistency, all individuals are referred to as "patients" throughout the paper, as it is not appropriate to refer to them as drug users or detoxified individuals who returned to society after the completion of detoxification. The study obtained the consent of all participants by informing them of the research purpose and data usage in advance and obtaining the approval of the ethics committee managed by the Yuxi Municipal Health and Family Planning Commission of Yunnan Province. The research process and results did not involve any personal privacy or related information leakage, as the participants were anonymously surveyed and group numbered.

2.2. Diagnosis, Inclusion, and Exclusion Criteria

The diagnostic criteria are based on two sources: (1) urine test certificates issued by the police and community and (2) the diagnostic criteria for opioid dependence (addiction) determined by the compulsory isolation detoxification center. The inclusion criteria are as follows: (1) meet the diagnostic criteria for methamphetamine (MA) dependence in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) of the American Psychiatric Association, (2) aged 20-60 years, regardless of gender, (3) completed primary school or higher and possess cognitive ability to meet the needs of the questionnaire survey, (4) police urine test results confirm the use of traditional drugs (heroin), and (5) have been detained for at least one month at the time of enrollment, excluding the impact of acute detoxification on emotions. The exclusion criteria are (1) physical illnesses affecting impulse control and cognitive function, such as traumatic brain injury, cerebrovascular disease, epilepsy, etc., and (2) other mental illnesses, such as schizophrenia, bipolar disorder, etc.

2.3. Methods

2.3.1. Sampling Method

The study used stratified random sampling, divided into seven sample groups, with an average sample size greater than 30 individuals per group. There were 58 individuals (24.47%) who maintained abstinence for 12 months or less, 50 individuals (21.09%) who maintained abstinence for 13-24 months, 38 individuals (16.03%) who maintained abstinence for 25-36 months, 18 individuals (7.59%) who maintained abstinence for 37-48 months, 36 individuals (15.18%) who maintained abstinence for 49-60 months, 15 individuals (6.32%) who maintained abstinence for 61-120 months, and 22 individuals (9.28%) who maintained abstinence for more than 120 months. The duration of abstinence was determined by two factors: regular urine tests by the police and community and the time of re-detoxification after relapse.

2.3.2. Survey Methods

The survey was conducted using the Self-Assessment Scale of Reasons for Relapse, the Self-Assessment Scale of Social Regression Factors, and the Three-Dimensional Personality Questionnaire. The Self-Assessment Scale of Reasons for Relapse and the Self-Assessment Scale of Social Regression Factors were developed by Professor Zhu Changcai of the School of Public Health at Wuhan University of Science and Technology. The Cronbach's α coefficient of the questionnaire was 0.756, and the split-half coefficient was 0.833. The Cronbach's α coefficient for each dimension ranged from 0.527 to 0.698 [11]. (1) The Self-Assessment Scale of Reasons for Relapse consists of 8 questions with options including "none, minor, moderate, major, very major" on a 5-point scale. Each option was assigned a score (1 = none, 2 = minor, 3 = moderate, 4 = major, 5 = very major), and the patient's score for each question is calculated. The higher the score, the greater the degree of influence. (2) The Self-Assessment Scale of Social Regression Factors consists of 10 questions with options including "none, minor, moderate, major, very major" on a 5-point scale. Each option is assigned a score (1 = none, 2 = minor, 3 = moderate, 4 = major, 5 = very major), and the different scores reflect the degree of influence of various

social regression factors. The higher the score, the greater the degree of influence. (3) The Three-Dimensional Personality Questionnaire selects the Sensation Seeking Scale, which consists of 34 items, to determine whether the test subject's personality tends towards sensation seeking, represented by NS. NS1 consists of 9 items, NS2 consists of 8 items, NS3 consists of 7 items, and NS4 consists of 10 items. The higher the score, the stronger the sensation seeking. In NS1-NS4, the higher the score, the more the tendency towards the feature in parentheses to the left. NS1 measures (Seeking Sensation - Stereotypy), NS2 measures (Impulsivity - Calmness), NS3 measures (Disinhibition - Conscientiousness), and NS4 measures (Nonconformity - Rule Following). At the same time, 90 normal subjects (occupations including police, civil servants, self-employed individuals, state-owned enterprise employees, teachers, and graduate students) were selected as the control group for the Sensation Seeking Scale.

2.3.3. Quality Control

(1) The basic information was obtained from the records to ensure its authenticity. (2) Before the survey, the investigators underwent unified training, including the purpose of the survey, methods, questionnaire design, conversation skills, and score counting methods. (3) For the 215 patients who relapsed within 120 months, one-on-one interviews were conducted in the compulsory isolation drug rehabilitation center. For the 22 patients who maintained abstinence for more than 120 months, one-on-one interviews were conducted at their homes. During the community rehabilitation period (within 3 years after release from compulsory isolation), these 22 patients underwent regular urine tests at the police station. Based on the police station records, community follow-up records, and targeted urine tests conducted in this study, it was determined that these 22 patients had not used illicit drugs within the past 10 years.

2.4. Statistical Methods

Stata 25.0 statistical software was used for data analysis, including one-way analysis of variance, independent samples t-test, and chi-square test. The significance level was set at $\alpha=0.05$.

3. Results

3.1. Basic Information

There were statistically significant differences in gender, number of detoxification, age, education level, marital status, and duration of drug use among patients with different adherence time limits. (Refer to Table 1 for details.)

Table 1. *Comparison of basic characteristics of patients with different abstinence maintenance periods (n, %).*

The survey content	≤12 months (n=58)		13-24 months (n=50)		25-36 months (n=38)		37-48 months (n=18)	
	Number	Composition ratio	Number	Composition ratio	Number	Composition ratio	Number	Composition ratio
gender								
male	56	96.55%	46	92.00%	30	78.95%	13	72.22%
female	2	3.45%	4	8.00%	8	21.05%	5	27.78%
Number of times in drug rehabilitation.								
1	17	29.31%	21	42.00%	14	36.84%	8	44.44%
2-3	29	50.00%	25	50.00%	21	55.26%	10	55.56%
4-5	4	6.90%	3	6.00%	2	5.26%		
>5	8	13.79%	1	2.00%	1	2.63%		
Age (years)								
20-29	20	34.48%	21	42.00%	14	36.84%	6	33.33%
30-39	22	37.93%	14	28.00%	13	34.21%	6	33.33%
40-49	13	22.41%	15	30.00%	10	26.32%	4	22.22%
≥50	3	5.17%			1	2.63%	2	11.11%
Education level								
Primary school and below	14	24.13%	10	20.00%	9	23.68%	4	22.22%
Junior high school	40	68.97%	36	72.00%	27	71.05%	12	66.67%
High school	4	6.90%	4	8.00%	2	5.26%	2	11.11%
Marital status								
Single	35	60.34%	30	60.00%	19	50.00%	5	27.78%
Married	19	32.76%	15	30.00%	11	28.95%	13	72.22%
Divorced or Widowed	4	6.90%	5	10.00%	8	21.05%		
Years of drug use								
1-3	22	37.93%	29	58.00%	21	55.26%	9	50.00%
4-6	22	37.93%	8	16.00%	6	15.79%	1	5.56%
7-9	3	5.17%	8	16.00%	4	10.53%	3	16.67%
≥10	11	18.97%	5	10.00%	7	18.42%	5	27.78%

Table 1. *Continued.*

The survey content	49-60 months (n=36)		61-120 months (n=15)		>120 months (n=22)	
	Number	Composition ratio	Number	Composition ratio	Number	Composition ratio
gender						
male	27	75.00%	10	66.67%	18	81.82%
female	9	25.00%	5	33.33%	4	18.18%
Number of times in drug rehabilitation.						
1	16	44.44%	12	80.00%	22	100%
2-3	15	41.67%	2	13.33%		
4-5	4	11.11%	1	6.67%		
>5	1	2.78%				
Age (years)						
20-29	12	33.33%	4	26.67%		
30-39	8	22.22%	6	40.00%	5	22.73%
40-49	12	33.33%	4	26.67%	12	54.55%
≥50	4	11.11%	1	6.67%	5	22.73%
Education level						
Primary school and below	6	16.67%	2	13.33%	3	13.64%
Junior high school	27	75.00%	12	80.00%	16	72.73%
High school	3	8.33%	1	6.67%	3	13.64%
Marital status						
Single	10	27.78%	6	40.00%	3	13.64%
Married	22	61.11%	7	46.67%	17	77.27%
Divorced or Widowed	4	11.11%	2	13.33%	2	9.09%
Years of drug use						
1-3	17	47.22%	12	80.00%	22	100%
4-6	9	25.00%	2	13.33%		
7-9	5	13.39%	1	6.67%		
≥10	5	13.89%				

3.2. Self-Evaluation of Relapse Reasons and Social Reintegration Factors

Among the 237 patients, the top five self-evaluated reasons for relapse were drug user temptations, rehabilitation effectiveness, employment discrimination, rejection by family and friends, and psychological symptoms. There were significant differences in the scores of physical symptoms, employment discrimination, drug user temptations, and rehabilitation effectiveness among patients with different adherence periods ($P < 0.05$).

The top five self-evaluated social reintegration factors were family acceptance, economic income, anti-drug policies, fair treatment, and employment opportunities, with the influence of police acceptance, community services, and anti-drug policies increasing with longer adherence periods. There were significant differences in the scores of family acceptance, police acceptance, community services, and anti-drug policies among patients with different adherence periods ($P < 0.05$), as shown in Table 2.

Table 2. *Comparison of self-evaluation of relapse reasons and social reintegration factors among patients with different length of abstinence [(± s), points].*

Project	total sample (n=237)	≤12 months (n=58)	13-24 months (n=50)	25-36 months (n=38)	37-48 months (n=18)	49-60 months (n=36)	61-120 months (n=15)	>120 months (n=22)	F value	P value
BPhysiological symptoms	1.603±0.813	1.517±0.748	1.500±0.700	1.711±0.856	1.889±0.890	2.111±0.946	1.333±0.607	1.000±0.000	6.009	<0.01
Bpsychological symptoms	2.127±0.928	2.276±1.047	2.180±0.956	2.000±0.993	2.222±0.865	1.972±0.809	2.333±1.036	1.864±0.350	1.012	>0.05
Bemployment discrimination	2.232±1.087	2.362±1.078	2.340±1.188	2.237±0.876	2.7221.318	2.194±1.275	2.133±0.826	1.364±0.491	3.376	<0.01
Bfamily and friends rejection	2.203±1.060	2.259±1.197	2.42±1.097	2.237±1.167	2.111±0.829	1.944±1.008	2.267±0.792	1.954±0.837	0.971	>0.05
Bcommunity bias	1.823±0.878	1.810±0.880	1.780±0.661	1.895±0.950	2.000±0.840	2.028±1.016	1.933±0.591	1.273±0.627	2.039	>0.05
BBored and lonely	1.970±0.893	2.034±0.966	1.920±0.724	1.947±1.058	1.833±0.776	1.833±0.938	2.267±0.695	2.091±0.515	0.633	>0.05
BThe temptation of drug-using peers	2.726±1.276	2.966±1.326	2.900±1.765	2.553±1.296	2.056±1.159	2.278±1.249	3.267±1.218	2.909±0.678	2.807	<0.05
BRecovery effect	2.654±1.239	2.328±1.190	2.620±1.344	2.237±0.906	2.222±1.108	2.667±1.332	3.333±1.231	4.182±0.575	9.878	<0.01
Cfamily acceptance	3.105±1.338	3.069±1.482	3.340±1.445	3.00±1.470	2.056±0.990	3.056±1.407	3.133±1.298	3.773±0.419	3.227	<0.01
CCommunity acceptance	2.485±0.975	2.345±1.009	2.420±0.824	2.421±1.077	2.111±0.829	2.722±1.027	2.733±1.095	2.864±0.557	1.810	>0.05
CJob opportunities	2.722±1.034	2.931±0.998	2.500±1.230	2.737±1.126	2.667±1.175	2.722±1.046	2.600±0.982	2.773±0.516	0.821	>0.05
CPolice acceptance	2.477±1.058	2.466±1.112	2.320±0.954	2.211±0.988	1.833±0.776	2.778±1.309	3.200±0.935	2.864±0.347	4.128	<0.01

Project	total sample (n=237)	≤12 months (n=58)	13-24 months (n=50)	25-36 months (n=38)	37-48 months (n=18)	49-60 months (n=36)	61-120 months (n=15)	>120 months (n=22)	F value	P value
Cclose friends	2.397±1.065	2.345±1.059	2.560±1.393	2.500±1.257	1.944±0.796	2.417±0.769	2.733±1.328	2.091±0.678	1.378	>0.05
Cneighborhood friendliness	2.160±0.934	2.155±0.947	2.080±0.934	2.342±1.117	2.111±0.827	2.306±0.876	2.200±1.008	1.818±0.495	0.942	>0.05
CCommunity services	2.466±1.039	2.241±0.988	2.240±0.961	2.447±1.127	2.176±1.072	2.861±1.068	2.867±1.117	2.909±0.606	3.120	<0.01
Cdrug prohibition policy	2.759±1.157	2.655±1.221	2.820±1.450	2.474±0.996	1.944±0.868	2.889±1.207	3.667±1.229	3.227±0.419	4.546	<0.01
Cfair treatment	2.759±1.078	2.776±1.067	2.560±1.266	2.737±1.217	2.722±1.269	3.000±0.978	2.733±1.163	2.864±0.557	0.623	>0.05
CEconomic income	2.852±1.083	2.862±1.196	2.640±0.924	2.974±1.168	3.278±1.476	2.944±0.951	2.667±0.808	2.727±0.756	1.029	>0.05

3.3. Three-Dimensional Personality Questionnaire (TPQ)

Results Overall, there were no significant differences between patients with different lengths of abstinence and the control group in NS1 (the only significant difference was observed between the 49-60 months group and the control group, P<0.05). However, significant differences were found among the different lengths of abstinence in NS2, NS3, and NS4 (P<0.05). Specifically, in NS2, there were no significant differences between the 12-month and below, 13-24 months, 61-120 months, and 120 months and above groups and the control group (P>0.05), while significant differences were found between the 25-36 months, 37-48 months, and 49-60 months groups and the control group (P<0.05). In NS3, there were no significant differences between the 12-month and below, 25-36 months, 37-48 months, 49-60 months groups, and the control group (P>0.05), while significant differences were found between the 13-24 months, 61-120 months, and 120 months and above groups and the control group (P<0.05). In NS4, there were no significant differences between the 12-month and below, 13-24 months, 25-36 months, 37-48 months, 61-120 months, and 120 months and above groups and the control group (P>0.05), while significant differences were found between the 49-60 months and 120 months and above groups and the control group (P<0.05).

Table 3. *Comparison of scores on the Three-dimensional Personality Questionnaire (Sensation Seeking Subscale) among patients with different duration of adherence to different moral principles [(± s), points].*

Project	≤12 months (n=58)	13-24 months (n=50)	25-36 Months (n=38)	37-48 months (n=18)	49-60 months (n=36)	61-120 months (n=15)	>120 months (n=22)	The control group (n=228)
NS	13.707 ± 4.060	13.640 ± 3.421	15.184 ± 5.184	15.667 ± 3.643	16.139 ± 4.814	13.667 ± 2.580	14.000 ± 1.232	12.542 ± 1.353
NS1	3.776 ± 1.350	3.840 ± 1.265	3.763 ± 1.697	3.778 ± 1.437	4.167 ± 1.627	3.800 ± 1.098	3.727 ± 0.696	3.456 ± 0.631
NS2	2.810 ± 1.596	3.000 ± 1.396	3.737 ± 1.879	3.778 ± 1.695	3.861 ± 1.966	2.933 ± 1.029	2.818 ± 0.659	2.461 ± 0.932
NS3	3.707 ± 1.426	3.360 ± 1.206	3.684 ± 1.909	4.444 ± 1.462	4.111 ± 1.390	3.733 ± 1.102	4.045 ± 0.582	3.958 ± 1.030
NS4	3.414 ± 1.636	3.440 ± 1.451	4.000 ± 1.542	3.667 ± 1.136	4.000 ± 2.030	3.200 ± 1.148	3.409 ± 0.798	2.961 ± 1.228

4. Discussion

4.1. Focusing on the First-Time Drug Detoxification Group and Seizing the Golden Detoxification Period

The results of this study indicate that the duration of moral adherence is inversely proportional to the duration of drug use (the time from the first drug use to the last drug use). Patients with a moral adherence duration of more than 60 months have a drug use duration of almost no more than 3 years, and patients with a drug use duration of more than 10 years have difficulty breaking through a moral adherence duration of 60 months. At the same time, the duration of moral adherence is inversely proportional to the number of detoxification, and patients with a moral adherence duration of more than 60 months have withdrawn from detoxification no more than 3 times. The duration of moral adherence after the first detoxification is longer, but after the second detoxification, the duration of moral adherence decreases significantly. This may be due to the gradual damage of brain neurons caused by drug abuse, which destroys the DA pathway of the frontal striatum, and the probability of relapse increases with the length of drug use [12].

At present, the importance attached to the first-time drug detoxification group in China is insufficient, and the correctional and punitive measures are inadequate (the same behavioral performance during the detoxification period, first-time compulsory isolation and detoxification personnel enjoy longer reduction periods). Therefore, the correctional and punitive measures for this group should be strengthened, and a special management area and targeted detoxification policies should be formulated for this group.

4.2. Emphasize the Strong Network of Linkages Centered on Family and Friends

The results of this study indicate that the duration of abstinence is positively correlated with marital status. Patients with a duration of abstinence of 36 months or less have a marriage rate of less than 35%, while those with a duration of abstinence of more than 36 months have a marriage rate of about 60%. Studies have also indicated that unmarried individuals are a key target for intervention based

on demographic characteristics [13]. Overall, family acceptance scores are high, with family acceptance ($P < 0.01$) being the only option with a score above 3 points. Family has a significant impact on patients' return to society, and family relationships are key to maintaining abstinence. Patients with a duration of abstinence of more than 120 months are most likely to recognize the role of family acceptance, indicating that family acceptance is a long-term process.

Drug-related temptations are characterized by high levels at both ends and low levels in the middle, with patients still facing the risk of drug-related temptations and relapse even five years after detoxification. Patients with different durations of abstinence all consider drug-related temptations to be the main factor influencing relapse ($P < 0.05$). Related studies also suggest that being influenced by drug-using friends is the main reason for drug abuse and relapse [14]. Family and friends are the most important strong network of linkages for patients. Currently, most families are willing to accept patients, but the methods and approaches need to be improved, leading to strained family relationships. In addition to patients actively integrating into their families, family members also need to value proactive acceptance and appropriate acceptance methods. The government should develop preaching mechanisms and communication platforms for patients' families, especially to enhance their understanding of drug abuse as a chronic brain disease and communication skills. In terms of socialization, patients rely mainly on their own active refusal and selection, and exploring ways to cultivate patients' interests, teaching them how to integrate into new circles, and helping them build healthy social platforms should be a developmental direction.

4.3. Further Strengthen the Professional Construction of the National Unified Drug Rehabilitation Model

The national unified drug rehabilitation model of the judicial administration and drug rehabilitation system includes medical intervention, rehabilitation training, educational correction, and psychological treatment. This study shows that physiological symptoms have the least overall impact, and their influence decreases as the duration of abstinence increases, proving the effectiveness of compulsory isolation drug rehabilitation on physiological detoxification, which is consistent with the theory of physiological detoxification cycles. The differences in rehabilitation effects between groups vary greatly, significantly increasing from 49 months onwards, and reaching a high point of 4.18 ± 0.58 after 120 months, indicating that rehabilitation training helps to increase the duration of abstinence. At the same time, the duration of abstinence is inversely proportional to the overall educational level, with a longer duration of abstinence associated with a higher level of education. The proportion of patients with a duration of abstinence of more than 48 months and a junior high school education or higher is not less than 70%, indicating that educational level and ideological awareness are not only related to the probability of drug use, as demonstrated by many studies, but also related to the duration of abstinence.

In addition, there were no significant differences between patients with a duration of abstinence of 12 months or less and the control group in terms of NS1-NS4. As the duration of abstinence increased, the differences between patients with a duration of abstinence of 13-48 months and the control group in NS1-NS4 increased to one item, while the differences between patients with a duration of abstinence of more than 120 months and the control group increased to two items. However, there was no regular pattern in the differences between patients with a duration of abstinence of 49-120 months and the control group in NS1-NS4. Three groups with a duration of abstinence between 25 and 60 months scored significantly higher on NS, NS2, NS3, NS4, and other options, showing a distribution of high-middle-low impulsiveness, licentiousness, and nonconformity personality traits. Patients who maintained abstinence for more than 60 months had personality traits similar to those of the control group, indicating a correlation between personality traits and the duration of abstinence, and psychological treatment is one of the effective ways to change personality [15-17].

The above research content corresponds to the four modules in the national unified drug rehabilitation model. Currently, only compulsory isolation drug rehabilitation can provide mandatory free interventions for drug users from the perspectives of physiological treatment, rehabilitation training, cultural education, and psychological treatment, which solves the pain points of drug abusers not actively seek intervention, or even evade it. However, the four modules require high levels of professionalism, and the professional talent team of compulsory isolation drug rehabilitation sites is still in the early stages of development. Therefore, it is necessary to strengthen the professional construction of the national unified drug rehabilitation model, strengthen cooperation with universities, research institutions, and other organizations, especially the normalization of service supply and talent cultivation.

4.4. Follow-up Assistance Mechanisms for Building Social Integration Through Multi-Departmental Collaboration

With the increase of the duration of maintaining good behavior, the impact of employment discrimination decreases, with the most significant effects observed within 24 months. The country should pay special attention to resolving the employment issues of patients who have been forcibly isolated and detoxified for two years. For patients of working age, further efforts should be made to enhance employment support through policy support, constructing a long-term, multi-departmental employment assistance system.

On the one hand, through the establishment of employment support bases, relevant enterprises should be actively introduced and given preferential measures such as funding subsidies, tax reductions, and rent exemptions, while patients should be encouraged to start their own businesses and enjoy corresponding policies within the base. On the other hand, enterprises within the base should launch

vocational skills training programs based on actual needs during the detoxification period and provide corresponding positions after completing the program.

The research results also show that public security acceptance, anti-drug policies, and community services are important factors influencing the duration of maintaining good behavior. Anti-drug policies and public security acceptance are more recognized among people who have maintained good behavior for over 60 months. The lower recognition rate of short-term relapses may be due to the short period of time for returning to society, and the low awareness of the influence of policies and public security, such as the impact of hotel inspections on love and work, and the impact of revoking a driver's license on reemployment. At the same time, the longer the duration of maintaining good behavior, the more importance is placed on community services, indicating that the community's assistance role should be valued, and more efforts should be made to promote community rehabilitation.

Currently, China's social reintegration of drug rehabilitation patients is still in a situation of heavy regulation and light services. There are drawbacks such as functional overlap, business overlap, and talent shortage between the post-care work under the jurisdiction of the Ministry of Justice and the government-led community rehabilitation work. To build a social integration follow-up assistance mechanism, it is necessary to further integrate resources, complementary advantages, involve society, and work together.

4.5. Research Limitations and Future Directions

There are two aspects of this study that could be further explored. Firstly, the scores of patients with a maintenance period of less than 24 months tended to be closer to those of patients with a maintenance period of more than 60 months, and this study did not provide evidence to explain this phenomenon. Further research will be conducted to investigate this issue. Secondly, this study did not include multivariate analysis due to the limited space and the large number of variables involved. Multivariate analysis will be conducted in future studies.

5. Conclusion

From the perspective of the patients themselves, the duration of relapse is influenced by the number of drug rehabilitation treatments received, education level, marital status, and duration of drug abuse. Patients who possess impulsive, unrestrained, and nonconformist personality traits are more prone to relapse. From an external environmental perspective, factors such as drug-related peer pressure, rehabilitation effectiveness, employment discrimination, social exclusion by family and friends, psychological symptoms, family acceptance, economic income, drug prohibition policies, fair treatment, and employment opportunities all have an impact on the effectiveness of drug abstinence.

References

[1] Zhong Weifang, Guo Yongxing. The influence of psychological resilience on the risk of relapse in drug addicts: the chain-mediated effect of stress perception and depression. Chinese Journal of Clinical Psychology, 2018, 26 (06): 1096-1099.

[2] Zhang Jun. Reflections on China's drug rehabilitation work [EB/OL]. (2004-07-24) [2007-10-12]. http://www.people.com.cn/GB/shehui/8217/8817/35388/2662807.html.

[3] Tang Hao. Memory retrieval-extinction paradigm and its application in drug addicts. Chinese Journal of Behavioral Medicine and Brain Science, 2016, 25 (12): 1138-1141.

[4] Zhong Weifang, Ma Jie, Hou Wei. The influence of sense of life meaning on the risk of relapse in drug addicts: the chain-mediated effect of self-esteem and depression. Chinese Journal of Health Psychology, 2019, 27 (03): 439-443.

[5] Dong Zaiquan, Sun Jinhua, Guan Xuan, et al. Analysis of the three-dimensional personality characteristics of inpatients with alcohol dependence or new drug dependence. Chinese Journal of Neurology and Psychiatry, 2009, 35 (12): 755-756.

[6] Ge Lishuang, Ying Lihua. The influence of introverted/extroverted personality and social support on the relapse tendency of male isolated drug addicts. Chinese Journal of Health Psychology, 2016, 24 (04): 507-510.

[7] Chen Shama, Yuan Haiyan. Analysis of influencing factors of female drug addicts' relapse. Journal of Fujian Agriculture and Forestry University (Social Science Edition), 2008, 11 (02): 101-104.

[8] Liu Xiaoyu, Wu Jianru. Analysis of relapse risk factors among drug addicts in Shenzhen. Journal of Southeast University (Medical Edition), 2015, 34 (06): 929-933.

[9] Zhejiang Provincial Drug Rehabilitation Administration Project Team. Investigation report on the situation of abstinence conduct of compulsory isolated drug addicts after returning to society. China Legal Science, 2014 (10): 69—74.

[10] Chen Xin, Song Yunkui, Zhou Qiu, et al. Analysis and countermeasures of the relapse factors of strong control personnel in Yunnan Province. Crime and Rehabilitation Research, 2019 (06): 15-21.

[11] Duan Mingjun, Yang Yanchun, Li Bin. Study on the reliability and validity of the Three-Dimensional Personality Questionnaire [J]. Chinese Journal of Mental Health, 2006 (09): 610-612.

[12] Feng Chengyun, Chen Wei, Deng Bing, et al. Analysis of quality of life and influencing factors in 166 drug users [J]. Guiyang Medical College Journal, 2009, 34 (06): 637-639.

[13] Zhang Quanshui, Xia Li, Cai Cuilan, et al. Research on the trend of drug and substance abuse in Shenzhen [J]. Chinese Journal of Social Medicine, 2014, 31 (06): 441-443.

[14] Hsu J, Lin JJ, Tsay WI. Analysis of drug abuse data reported by medical institutions in Taiwan from 2002 to 2011 [J]. Journal of Food & Drug Analysis, 2014, 22 (2): 169-177.

[15] Wu WY, Hou JJ, Long HL, et al. TCM-based new drug discovery and development in China [J]. Chin J Nat Med, 2014, 12 (4): 241-250.

[16] Li Jianhua. The current situation, challenges, and coping strategies of psychological and behavioral treatment for substance addiction in China [J]. Chinese Journal of Drug Abuse Prevention and Treatment, 2019, 25 (02): 76-81.

[17] Roberts BW, Luo J, Briley DA, et al. A systematic review of personality trait change through intervention [J]. Psychol Bull, 2017, 143 (2): 117-141.